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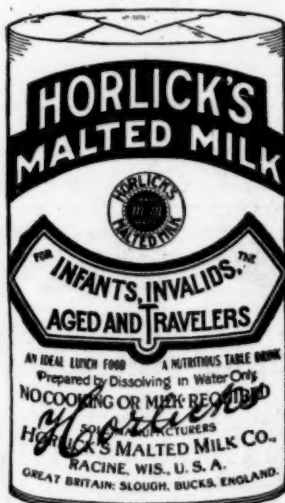
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General Scientific

THE SIGNS AND SYMPTOMS OF IMPENDING HEART FAILURE.*

HARLOW BROOKS, M. D.

VISITING PHYSICIAN TO THE CITY, AND TO THE MONTEFIORE HOSPITALS; CONSULTING PHYSICIAN TO ST. MARY'S HOSPITAL (HOBOKEN),
New York.

Heart failure is so frequent and so very serious a complication in so many disease conditions, its onset is oftentimes so sudden and unheralded, and it so frequently results in death, that all of us, no matter what our special line of work may be, are interested particularly in the recognition of the signs before the catastrophe itself occurs. With our present knowledge of the heart and our much more certain and direct therapeutic measures, given this warning we are often able to forestall the asystole, either to prevent its occurrence by appropriate medication or perhaps to therefore exercise greater caution, as, for example, in the selection and giving of an anaesthetic.

Our recent greatly augmented understanding of heart physiology has also made it possible for us to now detect conditions which presage failure and at the same time we now recognize that heart failure is oftentimes an occurrence in states or conditions in which we had not formerly realized its likelihood.

It would seem then that we may then well introduce our discussion of the early signs and symptoms of heart failure with a brief consideration of the conditions under which it is most likely to take place.

Undoubtedly the most frequent of all conditions under which unannounced heart failure most commonly occurs is in the course of the acute infections. So frequent is this so that asystole is above all others that complication first considered and taken into account of, in our management of the acute infections. As anatomical studies have shown, this sudden giving way of the heart in these infections is commonly accounted for by an acute parenchymatous degeneration of the heart muscle, sometimes and notably in diphtheria by a very quickly developed fatty degeneration.

The simple existence of such an infection as diphtheria, scarlet fever, pneumonia, tonsillitis, rheumatism

or septicemia is in itself a sign of impending asystole because of the degenerative changes in the heart muscle which we know takes place in these diseases. We also know that in these conditions where the toxemia is pronounced or when the temperature runs particularly high that myocardial denegeration is all the more likely to occur, and when it does of all the more grave a type.

While doubtless most cases of heart failure in the acute infections are anatomically accounted for by a degenerative change in the heart muscle we of late have been forced to consider yet another factor as contributory or perhaps causative and that is a sudden marked diminution or withdrawal of an adequate adrenal secretion from the blood which we now also know not infrequently acts as a cause of acute heart failure in the infections.

Heart failure also impends, as every experienced physician knows, in many of the chronic infections and always during the period of convalescence and for a considerable time thereafter, notably in typhoid fever, for example, where the elemental lesion is a drivative really of that seen in the acute infections, that is, it is a fatty degeneration of the heart muscle which commonly succeeds the more acute parenchymatous alterations.

Unannounced giving way of the heart is to be apprehended in pulmonary tuberculosis of any form, and especially in the chronic ulcerative type. It occurs also from similar anatomical defects in chronic sepsis and in some cases of long-standing syphilis. In any of these diseases, however, it is common knowledge that the usual fatty degeneration in the heart muscle may be complicated by more or less amyloid change or by a fibrosis which has naturally enough succeeded the other degenerative alterations.

Recent publications have shown us also that in syphilis especially a broader conception of these lesions must be taken, as for example, in four cases of acute lues reported by myself in which sudden heart failure took place as a result of active syphilitic myocarditis. This is as I with others have shown, much more commonly the case in long-established lues where active syphilitic inflammation may spring up at any time and the frequent occurrence of gumma of the heart, of coro-

*Read before the New Jersey Academy of Medicine, October 18, 1916.

nary disease and the like greatly increase our apprehension in this protean infection.

Sudden giving way of the heart, usually with all the signs and symptoms of an acute dilatation, is frequently seen in certain of the exhaustive conditions. In some of these the lesion is explained by a brown atrophy of the heart by a fatty degeneration, a fibrosis or by an acute myomalacia as from the sudden cutting off of the blood supply from some area as in a coronary thrombosis, vascular spasm or from the rupture of a varix or minute aneurism.

In nephritis of the hypertensive type, for example, a myocardial fibrosis is likely to occur, in fact it is almost certain to develop in long-standing instances; finally under some suddenly added strain it gives way with all the picture of acute cardiac dilatation or perhaps aneurismal rupture of the heart. The slower giving way which occurs so characteristically in most hypertensive instances is usually anatomically explained by a fibrosis, plus a fatty degeneration of the muscle, both the result of the long-standing over-pressure, probably complicated more or less by the toxæmia which appears in this disease to a greater or lesser extent. In the more acute types of nephritis, such for example as in the acute parenchymatous form, the toxic factor doubtless plays a very dominant role.

In diabetes also sudden giving way of the heart is a not infrequent occurrence, and here doubtless the hyperglycemia contributes very largely to the degeneration or fibrosis of the muscle. In uncomplicated or true obesity acute cardiac failure seems to be mostly due to the mechanical interference of the fat deposited between the heart muscle cells, though in very many cases of obesity doubtless the ductless glands, notably the thyroid and pituitary beyond doubt contribute largely through their defective or overabundant secretion.

Heart failure due to insolation, or heat stroke, in so far as my few observations go, seems to be due to an acute degeneration of the muscle allied to but apparently differing from true parenchymatous degeneration. The earlier observations concerning this condition we owe to the late Ira Van Gieson, but I am convinced that the general toxic state, probably due as Van Gieson demonstrated years ago, to changes in the blood proteids as a result of the heat and the resulting altered body metabolism, is directly responsible for the muscle lesions.

The acute relaxation of the heart seen in many cases of active shock, in sudden and severe pain and also in great mental disturbance has been very difficult of explanation, and in many, if not most of the recorded cases, the heart has shown only lesions of very indefinite character most probably long antedating the immediate termination, and there are cases on record in which asystole has occurred, entirely without any adequate explanatory lesion. The observations and experiments of Crile have, however, thrown a new and very plausible light on certain of these conditions; they may also perhaps largely explain the sudden death in status lymphaticus. Certain observations of my own, added to a group of cases reported by Josué (*Paris Medicale* July 1, VI, No. 27, p. 7—1916) lead me to feel that the sudden asystole is due in these cases to defective adrenal secretion. I feel that further study along these lines will lead us to a much broader understanding of many of the more puzzling instances of sudden and unaccountable heart failure, and may probably greatly amplify our conceptions of the heart mechanism in its relationship to so-called nervous influences.

Other conditions long also recognized as likely to suddenly and oftentimes surprisingly terminate in heart failure are instances of coronary sclerosis or embolism, as for example, in endocarditis. In the heavy metal poisonings and in those numerous but poorly understood examples of proteid poisoning, perhaps as exemplified in anaphylaxis we have yet other conditions in which unexpected heart failure may appear.

Although we all realize that most cases of so-called death from "acute indigestion" are but examples of death from definite cardiac lesions, certain instances seem to exist in which great inflation of the hollow viscera of the abdomen do terminate in sudden heart failure. Though explainable on the theory of reflex nerve stimulation in part, the difficulty or impossibility of reproducing these occurrences in experimental animals still leaves this theory, *sub judice*. The sudden dilatation which occasionally occurs in gout is probably due to foci of infiltration very similar in action to those seen in rheumatism.

Very much, perhaps all of what I have said thus far, may seem very far from the subject announced, the signs and symptoms of impending heart failure, but I have found it always most helpful, if in the consideration of any signs or symptoms I have at the time attempted to visualize in my mind the mechanism of the process productive of the signs or symptoms and thus I have felt myself better prepared to cope with the problem at hand.

Furthermore, it seems to me that always in the management of such instances as we have cited above we should bear in mind the likelihood of the sudden onset of a cardiac collapse and being thus forewarned, stand forearmed. I have also always considered that the etiological factors concerned in any process are a very definite and essential integral part of the signs and symptomatology.

To now proceed to the signs and symptoms which appear to presage the asystole, and in this regard I wish from the outset to explain that I do not propose to consider tonight the picture of frank heart failure since these are fully familiar to every one of you, but I shall attempt in so far as I am able to show and call attention to most of the earlier indications which precede the frank attack.

One of the earlier and most common symptoms in my experience is that of oppression, pressure or discomfort in the precordium. These symptoms may be, and often are, present before any others can be made out. True, they come under that class which experience has taught us to always view with suspicion, the subjective symptoms which are likely to be falsely detailed or exaggerated by neurotics, but in this case one can very frequently demonstrate the verity by the hyperaesthesia of Head's cardiac zones or by the concomitant occurrence of corroborating signs or symptoms. With me it has happened very frequently that the subsequent course has fully verified the importance of this symptom so that I no longer ignore the complaint even when made by known neurotics. It is ordinarily accentuated and associated with slight dyspnoea when mild exercises are given, such as turning over or sitting up in bed, a practice which may be attended with some danger in these conditions under discussion.

Distinctly as an amplification of this sense of fullness or oppression in the precordium is the symptom of cardiac pain which appears, I am certain much more frequently than I have in the past given due credit.

The pain is generally described as of a bursting or tearing character and though occasionally reflected down the arm, into the shoulder and otherwise as in true stenocardia, it is much more likely to be constantly located in the precordium and it is often manifested by a habit of the patient to press the hand, the pillow or some other such object to this region. Where real pain is complained of, in most instances more or less hyperalgesia, is almost certain to be demonstrable in its appropriate zone.

Where blood pressure charts have been kept, in very many a persistently gradual decline in the systolic record will be noted. This is particularly true of those instances of threatened circulatory failure which appear in cases of hypertension and it is a very old adage in clinical medicine that one of the earliest manifestations of approaching collapse in chronic interstitial nephritis, which we now recognize as almost without exception a hypertensive condition, is a softening of the pulse. I have accordingly found it a very advantageous practice to keep more or less regular pressure charts in cases of hypertension for the purpose of discovering this early indication that the heart is beginning to give way under the strain.

In some cases, but not all, instead of a fall in the systolic readings, one first notes a relative rise in the diastolic level, so that the pulse pressure may be greatly reduced. Shortly after a drop in the systolic pressure occurs without a commensurate drop in the diastolic readings, such a finding I consider as highly diagnostic of rapidly approaching cardiac collapse.

An irregular course of the pressure, that is, a fluctuating curve is of similar significance. While nowadays we are mostly dependent upon instruments of precision for the detection of such changes, there is no question but that the older clinicians were largely able to draw those same deductions from a close study of the palpated pulse.

It is an axiom in cardiac mechanics that the pressure falls as the quantity of the essential circulating medium diminishes, physiologically and in most instances pathologically also, there is then an increase in the rapidity of the heart, probably in a physiological attempt to replace by rapidity of contraction the defective circulation due to the failure in the strength or effect of each systole. In some instances this increase in rate may amount to a true tachycardia. Generally in these cases careful study of the apex pulsations or of the radial or other superficial arterial pulse either with the well-educated finger tips or more strikingly with the sphygmograph or electro-cardiograph will show a variation in the summits of the systole, sometimes also in the lower registers of the contractions, though in the polygram these readings are more liable to be faulty than even those of the contraction apices. In other words, a beginning variation in the strength of the ventricular systole is evident and it is usually more vividly brought out when the rate of the heart has been increased. Furthermore, the character of the sphygmographic tracing is altered, the limb of descent is more straight, the notch and shoulder are diminished or eradicated and though of very different mechanical causation, the waves somewhat resemble miniatures of those of an aortic incompetence.

Although an increase in rate is the more usual finding, there are occasional cases which show instead as a sign of failing competence, a slowing of the pulse. Although I have not the evidence, such as might be furnished by electro-cardiograms that these are in-

stances in which the bundle are especially involved, I believe that some, but by no means all, of them are,—for example, in some cases of the toxæmia of a nephritis, in heat prostration, in jaundice and some examples of simple myocardial degeneration. Occasionally also one sees the bradycardia alternated or interrupted by periods of tachycardia and especially if exercise or excitement be introduced.

Dyspnoea is a sign which occasionally appears very early and long before the state of asystole may seem to be threatened. Of course, it becomes most apparent after more or less exercise and conversely its gravity may be estimated more or less from the degree of exercise necessary to cause it to develop. When it appears during absolute muscular repose or under psychic stimulation only, it is a symptom of very great significance.

Cough of a slightly irritative character is frequently shown, usually with the periods of dyspnoea and it may be accompanied by the presence of moist rales in the bronchi or entirely free from them. Generally it is somewhat like the brassy cough of a mediastinal pressure or laryngeal irritant, though sometimes it is apparently the result of slight pulmonary edema. This last mentioned condition is occasionally among the early premonitory signs of cardiac failure, particularly, I believe, in those conditions of myocardial degeneration such as one sees in diphtheria, after typhoid fever and frequently in pneumonia. Impending cardiac failure in fact is the first condition to be considered when pulmonary edema unexpectedly appears.

Though we have already proceeded a good way in the discussion of the premonitory signs and symptoms of this condition, in my opinion we have thus far neglected one of the most infallible, early and easily determined signs of it. I refer to the alterations in the sounds of the heart. In my opinion to the practiced ear there is no sign so readily determined and so delicately significant as changes in the sounds of the heart and of the first sound in particular. To one familiar with the normal muscle sound in any case, and every one attendant on cases of any of the above conditions should be thoroughly attuned to the contraction sound of the heart of his patient, almost without exception changes in muscle tension of no matter how minute degree, such as must occur in myocardial degeneration even of mild grade, are manifested by notable alterations in the sound of the contracting muscle. Minute changes in rhythm or in the intensity of contracture are also readily detectable on auscultation. The tone of the valve closure also become greatly modified by very slight lesions of the muscle or valves and even when the innervation of the heart is modified or disturbed. I am so much an enthusiast on this subject that I believe that if the heart is discriminatingly auscultated practically no cases of failure will occur without some intimation of its occurrence having been portended through this medium. It is, however, quite as impossible for me to describe just the changes in the muscle or valve tones which indicate this as it would be for me to give you a mental picture by words of the difference between the voice of the violin and that of the oboe, but even to the inexpert in auscultation the sound is changed and that it is the significant and adequate danger signal.

Cyanosis of slight degree and usually of very transitory appearance is quite frequent in some cases. It is commonly most striking about the lips and is often sharply contrasted with a pallor of other portions of the face. In cases showing this sign, which is usually not very marked, when the surface of the body is cooled as

by a current of air as from a window or fan, one often notes a cold sweat appearing on the face and head and at the usual points of distribution. A coldness of the extremities and especially of the tip of the nose is complained of and the patient is likely to demand more bed covering than customary. The pallid appearance of the skin may cause a blood count to be made and not infrequently one is rather surprised to find the red cell count higher than would be ordinarily expected. Oedema is another frequent sign of this same group, sometimes it is seemingly determined by gravity, appearing only in the most pendant portions of the body, but at other times it appears in the face, irregularly over the chest, etc., it is likely to be very transitory and to come and go in different areas.

Symptoms of indigestions, inflation of the stomach and colon with gas with eructation are very frequent. Inasmuch as this is commonly relieved by the administration of hydrobrouse and pepsin, I have assumed that it is probably due to defective secretion, perhaps following venous congestion or arterial anaemia of the gastric mucosa. It sometimes is a very annoying symptom and is very likely to lead one astray in diagnosis unless a broad oversight of the case is maintained. More or less nausea is to be expected, of course, in these cases, but this also appears in some cases which show no other indications of gastro-intestinal disturbances.

Where patients are bedridden, under fairly constant fluid and diet and close observation, it may be noted that the amount of urine has diminished and notwithstanding this fact the concentration of the urine has not proportionately increased. Occasional clouds of albumin are likely to appear in the urine and a few hyaline casts may be also found. A phenothalein permeability test may show defective secretion on the part of the kidneys and in some respects the picture may be that of a developing nephritis, but all the indications of a renal toxæmia are notably lacking.

A general sense of weakness and exhaustion may be among the very early signs, and may be notable entirely independent of dyspnoea, inasmuch as it may be manifest in regard to mental as well as physical effort, though, of course, when exercise is introduced in these cases more or less dyspnoea and some cyanosis is expected.

Insomnia of a more or less marked grade very commonly develops and with it is very likely to be associated night terrors, nightmare or the familiar "night starts." These symptoms I have always supposed to be due to an addition of a relative cerebral anaemia to the physiological condition which is supposed to be an essential part or perhaps a cause of physiological sleep.

It will be noted that in this recital of symptoms I have not considered the frank outbreak of a heart incompetence, since it has been my purpose to attract your attention to the early picture which is likely to lead up to this condition, which I feel may be prevented in no inconsiderable number of cases if the early indications suggestive of its occurrence are noted and appropriate treatment introduced. This is, I feel, another illustration for the efficacy of preventive medicine and in my own experience it has amply repaid the thought and study which I have long devoted to the subject.

5 West Ninth Street.

The best treatment for ringworm of the nails is to scrape the affected parts of the nails frequently and to keep an antiseptic ointment applied as constantly as possible.

THE PROGNOSIS OF SYPHILIS.

D. A. SINCLAIR, M. D.

PROFESSOR OF GENITO-URINARY SURGERY, NEW YORK POLYCLINIC
MEDICAL SCHOOL
New York.

The prognosis in a case of syphilis depends on the consideration of five important factors, which should always be taken into account: 1st, the time from the date of infection; 2nd, the kind and amount of treatment, if any, that has been received; 3rd, the parts of the body at present affected by the disease; 4th, the Wassermann tests; 5th, that from three to five years are required for a complete cure.

If, in a case of recent infection, in an otherwise normal body, intravenous infusions of salvarsan or neosalvarsan be given in serial form, with mercury between the series, and the administration of iodide of potash, combined with mercury after the second year, together with the intelligent and constant co-operation of a normally optimistic patient for the required length of time, it is my firm conviction that the disease may be cured. Such cases are easily and satisfactorily managed, with the most gratifying results.

The old saying that syphilis cannot be cured, the idea that the former principal remedy employed,—mercury—"gets into their bones and rots them," the unwarranted fear of taking salvarsan treatment and the dread of locomotor ataxia, paresis and other lesions of the nervous system, have a firm hold on the lay mind, causing the patient to anticipate being the victim of one or all of these dire consequences. These deeply rooted beliefs, handed down for generations, are due to the well-intentioned but haphazard course of treatment formerly prescribed, and symptomatically, rather than systematically followed, the patient being only too willing to discontinue his medicine, with the disappearance of the visible lesions, regarding himself cured, returning to his alcohol and tobacco, and otherwise indulging in habits prejudicial to his cure, thus inviting a persistence in the malady, but temporarily concealed, and the consequent appearance of more or less serious relapses. Since the discovery of the spirocheta pallida, and the Wassermann test, which resulted in a clearer understanding of the pathology and course of the disease, and the advent of salvarsan and neosalvarsan, far better results from treatment are obtained, thereby enabling us to determine with greater precision and confidence whether or not our patient is cured.

The questions usually asked by a patient are: "Can I be thoroughly cured?" "How long will it take?" "May I marry and will my children be healthy?" I invariably assure my patients that syphilis can be cured, provided the course of treatment, as above outlined, be followed; that they fully cooperate with me in the management of their case, and order their mode of living in a manner calculated to maintain the highest possible standard of health. If, during the two latter years of the prescribed period, they are free from objective symptoms, and have repeated negative Wassermann tests they may safely marry, with the best possible human assurance that they are thoroughly well, and that their offspring will be normal.

In order to get the co-operation of a patient, the erratic and deceptive course of syphilis should be explained to him, but we must be careful that we do not go too far in our descriptions and warnings, else we may develop the syphilophobe, than whom there does not exist a more difficult patient to handle.

As an extreme example of syphilophobia, I submit

the following: Mr. X—age 28—married—occupation, policeman. He consulted me one evening, accompanied by his father, who most solicitously begged me to do my best for his boy. The patient told me he had been married less than one year, and never had had any venereal disease. Five or six days before consulting me, he had had sexual relations with another woman, and thought that he was infected with syphilis. Careful examination failed to show even the suspicion of any lesion. The patient plucked hair from his head and pubes to prove that he must be infected, for he remarked he knew the hair came out in syphilis. He was greatly excited, and although I talked to him for over an hour, and assured him he was simply suffering from the consciousness of his recent relation, he would not be convinced, and that same night committed suicide by shooting himself. I have seen several other cases, all in men, who were on the verge of doing away with themselves from the same fear.

It is in the latter type of case that the physician's judgment, tact and discretion are most needed.

On the other hand, there are the phlegmatic, careless and alcoholic patients, who evidently do not realize or care about the seriousness of their malady, who continue in their dissipations, infecting others and neglecting themselves, especially when visible lesions disappear, and who secretly believe that they are being kept under treatment and restraint for the doctor's financial benefit. Such individuals have to be frequently warned of the present gravity of the disease, and the future consequences in improperly treated cases should be unsparingly discussed, tempering with words of encouragement our admonitions against cessation of treatment, when visible lesions disappear, and in forbidding alcohol and sexual relations; at the same time hope for a complete cure should be held out to them.

Every individual case will present its problem, and the proper sizing up of the patient's physical condition and mental attitude, will tell us just how far it is necessary to go in our warnings or encouragement. I believe it proper to promise a patient that he will be cured, especially if he is seen in the early course of the disease and is treated for the requisite period of time.

The subject of sexual relations is an important one, and is frequently inquired about, especially in the case of the married man; if it is not, it should be brought forward by the doctor in every instance, because, while it may be hoped that sexual relations will be discontinued during the long period of treatment, it can hardly be expected that a normal man will contain himself for so long a time. If he is married, it is indeed difficult, for he not only has the natural inclination, but is constantly stimulated by the presence of his wife, and furthermore, even if he endeavored and could remain continent, he is pressed for explanations of his abstinence. It is customary for men to conceal, if they possibly can, the fact that they were unfaithful, the acknowledgment of which would probably bring about the usual consequences, separation or divorce, disruption of the home, or at least a breach, the cause of which will never cease to occupy the minds of both husband and wife. It is, therefore, most important to discuss the sexual relation with men and women, whether married or single. I believe the best advice to give consists in prohibiting absolutely all personal contact, not only while skin or mucous membrane lesions are present, but for two or three months after their complete disappearance, under active treatment. Then, if intercourse must, or will be indulged in, it

should be done with a condom, to avoid infection and pregnancy. Kissing should be avoided, at least so far as the lips are concerned, but to avoid suspicion, such salutations may be given on the hair of the head. It is an easy thing for a father to do this, if his children or wife approach him for their customary greeting, and thus reduce to a minimum the danger of infection as well as compromise.

It is comparatively easy to conduct to a successful termination a case, seen in the primary and secondary stages of syphilis; it is the patient with a more or less vague history, without clinical evidence; the patient with nervous syphilis; the patient with syphilophobia, with or without syphilis, and the alcoholic, for whom we feel that the prognosis is doubtful. Likewise, the patient without clinical symptoms and a long story, hazy as to the date of infection, a history of irregular and spasmodic periods of treatment of unknown quality and quantity, reciting symptoms which may or may not have been syphilitic, coupled with a decided syphilophobia, is indeed, not only unsatisfactory from our standpoint, as to prognosis, but difficult to treat. They seem to doubt the possibility of cure; charge every human defect to syphilis, and often become impossible subjects. It has been my experience that men, belonging to this type, after the first shock of the knowledge that they were victims of the disease had passed away, and the first months of treatment completed, with an entire freedom, clinically, from visible lesions, stopped treatment. Generally speaking, the contemplation of matrimony or the discussion of the disease amongst friends arouses the fear in a patient that he is, possibly, uncured, and thus he may become progressively introspective, worry more or less continually, and grow more apprehensive, insistent and pessimistic, so that the doctor's patience is sorely tried, and his tact and knowledge put to a severe test. I have likewise noted in many syphilophobes, whom I am certain never had syphilis, that their mental attitude toward the disease was worse than those who had cause to worry.

The prognosis of syphilis of the nervous system in cases of paresis and locomotor ataxia, is at the present time bad. A temporary arrest of the progress of the disease is the best that can be expected, despite vigorous treatment by the most modern methods. A prognosis, of course, is always verified by the serologic findings, and several Wassermann tests are present in the mind of the physician as a final step to be taken before he releases his patient as entirely cured. Regarding the Wassermann test, experience shows that it is not to be too much depended upon.

It is often disheartening to read the findings of serologists. I have had single reports returned negative, in the presence of unmistakable syphilis, the blood having been taken in a routine manner to complete the book history, and I have had reports returned positive in undoubted non-syphilitic syphilophobes, whose bloods were taken merely to placate them. That these reports were uncommon I am glad to say. However, during the past two years I have tried to clear up this discrepancy in the Wassermann reports, and to this end, when the patient was able to stand the added expense, I have had three specimens of his blood sent for examination, one to the Board of Health, and one each to different serologists. Comparing these reports, I find a decided disagreement. In 22% of them, the readings are:

1.	++	Neg.	Neg.	
2.	++	Neg.	Neg.	
3.	+++	Neg.	+++	(* Neg. Neg.)
4.	+++	Neg.	+	
5.	++	Neg.	+	
6.	+	Neg.	Neg.	
7.	++++	Neg.	Neg.	(* + + + + + + + + +)
8.	++++	Neg.	+++	
9.	+++	Neg.	++	
10.	+++	Neg.	Neg.	

*In the above two instances, each of the dissenting serologists, having his attention called to the opposite findings of the other two gentlemen, voluntarily had a second examination made of the same specimen by two other entirely different serologists. In each instance, it will be noted that the reports of these two extra tests were identical with his own original findings.

This variation in the readings was not only misleading but embarrassing. Efforts to reconcile these conflicting reports, the chagrin in trying to explain the inexplicable to the patient, was an ordeal well nigh exasperating, as it was unsatisfactory in searching for help from the serologists, each of whom felt that his findings were correct, leaving me in the awkward position for making apologies for that which I was in no way responsible, casting doubt in the patient's mind, general satisfaction all around, and finally convincing me that after all the experienced physician thoroughly familiar with his patient's condition, and the amount of treatment he has given him, must be the judge, discounting in his good discretion the value of a positive or negative Wassermann test.

25 Park Ave.

THE NECESSITY OF ANALYZING DRUGS FOR ARMY USE.*

H. SHERIDAN BAKETEL, A. M., M. D.

FIRST LIEUTENANT, MEDICAL RESERVE CORPS, U. S. ARMY; PROFESSOR OF PREVENTIVE MEDICINE AND HYGIENE, THE LONG ISLAND COLLEGE HOSPITAL.

New York.

In the purchase of supplies for the United States Army, the governmental authorities exercise the greatest care in selection. Nothing is too good for the soldier and only the very best is procured. All supplies of a medical nature are furnished the Medical Department through the media of medical supply depots, which are in charge of medical officers who hold the rank of colonel, lieutenant-colonel or major. These supply officers are charged with the purchase of all articles which are used professionally by medical officers and dental surgeons and post and general hospitals. This includes not only drugs, medicines, surgical instruments and apparatus, but everything needed in the successful management of hospitals.

The post supply table includes a table of medicines, antiseptics, and disinfectants, made up of 221 different products, ranging from "acacia, powder, 1 lb., in wide-mouth bottle," to "zinci sulphas, ½ lb., in wide-mouth bottle." Then come 51 articles under the head of "stationery," followed by 380 articles under "miscellaneous supplies." In this list are all the surgical instruments, some of which are in cases, such as the general operating, genito-urinary, gynecological, ear, nose and throat, aspirating, eye, pocket and post-mortem, as well as rubber goods, and every kind of apparatus, electrical and otherwise.

In addition the list takes in all articles which are necessary to equip the wards, kitchens, operating rooms and offices of post and general hospitals. The list shows beds, chairs, dishes, glassware, kitchen utensils, step ladders, lawn mowers, oil cans, rat traps, stove

*Approved for publication by the Surgeon General, United States Army.

blackings, typewriters, watering pots, window shades, and a host of other necessities for the proper equipment of a well-appointed hospital. There are three other subdivisions of the post supply table, devoted to laboratory, identification and X-ray supplies.

The medical supply officers are also charged with the purchase of dental supplies, which are furnished in wide array. These include both portable and base outfits. In the portable outfit are found 30 varieties of medicines, stationery, eight text books, blank forms, a large and varied assortment of instruments and appliances, furniture and miscellaneous supplies. In the base outfits there is considerably more office furniture and equipment, and in addition an efficient laboratory equipment. The army dental surgeon is amply provided with the necessary working tools of his profession and very few dental offices in civil life possess a larger or better equipment.

In the consideration of both medical and dental field outfits it must be remembered that they are carried in small compass in field chests, made of a light, tough wood, covered with fibre, which combination makes the chest almost unbreakable. The surgeon in the field has a trunk, which, on being opened, transforms itself into a desk, with every convenience.

The supply officers must purchase many outfits for the field which have no place in the post. In addition to the individual equipment for each medical officer and hospital corps man, he buys the material for camp infirmaries, camp hospital, base and advance medical supply depots, camp infirmaries reserves, evacuation, base and regimental hospitals, ambulance companies and field hospitals. To entrain one ambulance company there are required three sleeping cars, one kitchen car, five standard stock cars and five flat cars, and ten cars are necessary to transport a field hospital.

It will be seen that a heavy responsibility rests upon the purchasing medical supply officers, who in the course of a year contract for many hundreds of thousands of dollars worth of supplies and equipment. According to law the purchase is by contract, by written proposal and acceptance and by oral agreement, all purchases of over \$500 being on advertisement and contract, except in the case of emergency, when the officer in charge of the depot can, for immediate delivery, buy in the open market, upon the authorization of the Surgeon General.

The law compels the acceptance of the lowest bid, unless something detrimental occurs, in the judgment of the officer in charge, to militate against this procedure. For example, if the lowest bidder had, in times past, furnished goods which had been rejected on account of poor quality and was again offering goods at a price far below those of long-established houses, the officer in charge would be justified in making a contract with the next bidder, especially if the time element entered into the transaction.

There are certain persons, maintaining no definite business establishments, who look upon the government as fair prey, and, therefore, enter bids at ridiculously low figures, for the express purpose of selling a poor product at a price below that of regular houses, but one which will yield the seller a good profit.

To guard against frauds, the army maintains chemists at its medical supply depots, who examine all drugs, textiles, and the like, and reject everything not up to standard. Uncle Sam recalls the maxim *caveat emptor* and acts accordingly. In the matter of drugs the U.S.P. is taken as standard and every drug not fully

up to the requirements of the Pharmacopoeia is turned aside.

In some of the instances which were discovered by First Lieut. D. W. Fetterolf, M.R.C., the chemist at the New York Medical Supply Depot, contractors had deliberately endeavored to defraud the government. In others, the intent could not easily be proven, while in others honest mistakes had been made.

In one case a large amount of normal saline solution tablets were purchased, but absolutely no trace of sodium chloride could be discovered therein. Sodium bicarbonate was found instead.

Heroin hypodermic tablets were rejected on account of a large percentage of talcum powder.

Boric acid tablets, supposed to be 5 grains each, were $\frac{1}{2}$ grain short, due to the presence of sodium borate.

Five-grain zinc sulphate tablets were short $\frac{1}{4}$ grain, due to the presence of stearic acid.

A large quantity of hypodermic tablets contained fibres of filter paper and particles of wood small enough to go through the needle, but in sufficient amount to cause an abscess. In another batch of similar tablets were found much insoluble foreign matter—dirt, wood fibre, filter paper and cotton.

Triturates intended for internal administration have been offered the army as hypodermic tablets and even they were found to contain large amounts of starch and talcum. The presence of the latter may be due to its use in lubricating the tablet machines. A very small amount might serve the purpose without difficulty, but many tablets are rejected on account of the presence of large quantities of the powder.

Extractum glycyrrhizae purum, which was purchased in quarter pound jars, after standing for a time, was covered with a fungoid growth, something which should not happen if the product were perfect.

A shipment of acetate of lead contained so much dirt and pieces of wood visible to the naked eye that one wonders how any firm could think of trying to hoodwink the government in such a palpable manner.

Analysis proved that liquid petrolatum often yields polymerization compounds to a considerable extent, showing the presence of too much hydrocarbon. A good oil should only show a trace.

Again, ether often contained considerable aldehydes and peroxides, and ethyl alcohol showed tannin and oil from the wood of the barrels.

Methyl alcohol free from acetone has been found a rarity.

Spiritus aetheris nitrosi is very volatile and is often found below normal; while it should contain not less than 4 per cent. ethyl nitrite, it often runs to 3 per cent. or under.

Chloroform was rejected on account of the presence of organic matter, carbonizable with sulphuric acid.

Hydrochloric acid stored in amber bottles has been rejected, because the iron in the glass bottles gradually dissolves, leaving a notable ferric content in the acid. This acid should be stored in colorless, iron-free glass containers.

Adhesive plasters also caused so much trouble that the chemist now goes over them very carefully. They vary greatly and the trouble is largely with the pitch. Very few manufacturers use resin, but depend on pitch and oil of olibanum. They also use Ceylon rubber instead of Para. White crepe for the base is the pure variety, but some makers employ a dark crepe of brownish color, which is impure. Many of these ad-

hesive tapes lose their adhesiveness upon standing and several spools which were kept a few months were absolutely valueless. There is a wide difference between adhesiveness and stickiness.

Another cause for the exercise of watchfulness is short measure in adhesive tapes. On 5-yard spools Lieut. Fetterolf has found a shortage of as many as 10 inches per spool.

Short measure is not confined alone to grocery stores. Even those men who try to sell gauze to the army are guilty of the practice. In 25-yard pieces, a six-inch shortage has been noted. When one considers that the army purchases gauze in 1,000,000-yard lots one can readily observe how much money could be made by an unscrupulous dealer by these six-inch savings.

One manufacturer of adhesive tape had his goods rejected because of black streaks running in the tape. After several rejections, an inspection showed these streaks to have been dirt, which fell from the ceiling of the factory on to the crepe when the adhesive layer was fresh.

Gauze to be efficient must be absorbent. When tested in water it is supposed to sink within five seconds. One sample which was rejected floated for 24 hours and could not be easily immersed even then, and other samples demonstrated their unabsorbability. This showed the cotton had not been sufficiently purified and that the oils and waxes had not been properly saponified and washed. The usual fault with gauze is the presence of an excessive amount of abstractive matter, such as wax and oil, but in one instance at the Medical Supply Depot, lead was found.

A comfortable bed is most essential for the ill or wounded soldier, and the greatest care must be exercised by the inspecting officers to keep hog bristles and short hair out of the mattresses and pillows. Only after rejections of entire lots do some dealers realize that hog bristles and short hair, which penetrate the mattress covering and stick into the occupant of the bed, will not be tolerated in supposedly long-hair mattresses to be used in army hospitals.

In Manila, before the time of compulsory drug analysis, complaints about the lack of therapeutic efficiency in a certain quantity of iodoform lead to analysis, which revealed a presence of 50 per cent. of flowers of sulphur.

These few examples of deception and carelessness selected at random from many instances demonstrate the wisdom of the Surgeon General's policy in analyzing every drug before it is purchased and prove the truth of the old adage that "Eternal vigilance is the price of liberty."

If private institutions were to adopt similar methods our drugs would be much more potent and the physician would not be so frequently criticised for failures which he often ascribes to therapeutic inertness.

The writer is under obligation to his commanding officer, Lieut. Col. Henry D. Snyder, Medical Corps, U. S. Army, in charge of the Medical Supply Depot, New York, and to Lieut. Col. F. M. Hartsock, Medical Corps, U. S. Army, for assistance in the preparation of this article.

Medical Supply Depot.

Mil Instead of C.C.

The new Pharmacopoeia has relegated the familiar abbreviation C. C. to the rear and instead of speaking of cubic centimeter hereafter we will have the milliliter, or mil, which will stand for 1-1000th part of a liter or 1000 C. C. The mil is equal roughly to 16 minims and four mils are equal to one fluid dram.

A REVIEW OF THE 9TH REVISION, U. S. PHARMACOPEIA.

By GEORGE C. DIEKMAN, PH. G., M. D.,
ASSOCIATE DEAN AND SECRETARY, COLLEGE OF PHARMACY OF THE
CITY OF NEW YORK, COLUMBIA UNIVERSITY.
New York.

Much comment and criticism have been noted because of the seemingly long time required to complete the ninth revision of the U. S. Pharmacopeia. Much of the criticism came from sources entirely unfamiliar with the methods of revision and of the difficulty surrounding the present revision. The relation of the Pharmacopeia to the National Food and Drugs Act is so intricate that great care had to be given to this work.

A new feature is the introduction of the term milliliter in place of the term cubic centimeter. The deletion of the latter has caused much adverse criticism. One of the reasons advanced to justify the change is that the United States Bureau of Standards declared the word cubic centimeter and its abbreviation Cc. a misnomer; another, that there is a slight difference between the cubic centimeter and the milliliter; still another, that the word cubic centimeter destroys the harmony of the metric terms. To many, none of the reasons seem sufficient to warrant so radical a change. Physicians will without doubt continue to use the term cubic centimeter for many years to come and in pharmaceutical literature the term will be long employed.

The introduction of official abbreviations is to be commended. It is, of course, quite likely that physicians will continue their more or less haphazard method of abbreviations. In the event of ambiguity, however, the pharmacist will be enabled to refer to the official guide which legally has the same standing as the titles themselves.

The extension of the use of synonyms will be welcomed, and the writer believes that such extension might have been given a still wider scope with profit.

The insertion of doses in metric and apothecaries' equivalent is continued in the ninth revision. The doses are in no case to be regarded as obligatory on the physician or as forbidding him to exceed these if he feels justified in doing so.

The same standards apply to the crude drug as apply to the powdered or ground variety. For the preservation of vegetable or animal drugs from the ravages of insects, it is directed that wherever necessary a few drops of chloroform or carbon tetrachloride be added and the drug stored in tightly closed containers.

Extracts.

The number of extracts is reduced from 28 to 25. This number might have been still further reduced, without materially interfering with the value of the ninth revision. A chapter dealing with extracts has been added, and precedes the individual members of this group.

It is to be regretted that so much prominence is given to powdered extracts. It is admitted that extracts in the powdered form can be weighed more readily and easily than such in a pilular state. It is not necessarily true, however, that the weighing will be more accurate. On page 142 the following statement appears:

Powdered extracts differ from pilular extracts in that they are dry, fine powders. Powdered extracts are often preferred to pilular extracts for general use, because they can be more accurately weighed, more easily dispensed, and more conveniently preserved, in tightly stoppered bottles.

In the preparation of powdered extracts, it is necessary to use solvents that will extract the active principles of the drugs and only a minimum amount of the inert substances. Where the drug contains an oily constituent that would be extracted by the menstruum directed, it becomes necessary to adopt in the process of manufacture a method for the separation of this oil so that the product will retain a satisfactory pulverulent form.

It can by no means be correctly assumed that the oily constituent of a plant is inert or devoid of medicinal value. To prepare an extract which is free from oil simply so that it may be produced in the powdered form cannot be looked upon as an advance in pharmacy.

Physicians when prescribing extracts expect to obtain an action similar to that of the drug itself. If it is desired to obtain the action of only a single constituent of a drug, such as an alkaloid or glucocide, then these latter will be prescribed. The question is not how readily or how quickly the order of the prescriber can be filled, but rather whether or not the patient is receiving a preparation which will and can do what is expected of it.

The number of fluid extracts has been reduced from 85 in the eighth revision to 49 in the ninth. This number would seem to be ample to meet the wants of the physician, particularly when supplemented with those to be found in the Fourth Edition of the National Formulary.

Fluid extracts should be kept in tightly stoppered containers for one month, and then, if perfectly clear, they should be stored in amber-colored bottles protected from sunlight and extremes of temperature. If sedimentation has occurred the clear portion should be decanted, the remainder filtered and the liquids thoroughly mixed before storing.

The direction to decant the clear portion of the liquid and to filter the remainder in the event that sedimentation has taken place would seem to be too general. Many and varied factors may be the cause of the sedimentation, hence the character of the sediment must be taken into serious consideration. If the sediment consists wholly or in part of acting constituent, it must, of course, not be removed. It is, therefore, necessary, before proceeding as directed, to first establish the fact that the sediment consists wholly of inert material.

Tinctures.

The total number of tinctures official is now 54, 10 less than appear in the eighth revision. The deleted tinctures will hardly be missed, more especially as most of them have found a place in the National Formulary.

Pills.

The number of officials under the head of pills has been reduced from 14 to 7. The absence of the former array of pills containing aloes is noted, pills of aloes alone being retained. Vegetable cathartic pills also have been transferred to the National Formulary, there to rest in peace. A definite standard has been adopted for Pills of Ferrous Carbonate, each pill containing not less than 0.06 Gm. of active constituent, and an assay process has been provided. Authority is given to employ monohydrated sodium carbonate in place of potassium carbonate. It is to be regretted that nothing is said concerning the manner in which such pills should be kept. It is difficult to conceive why an assay process is not provided for Pills of Ferrous Iodide. The fact that these pills are to be coated with Balsam of Tolu

does not insure against decomposition entirely, and it would have been well to establish a standard as well as to provide a process of assay.

Powders.

Compound Acetanilide Powder and Compound Powder of Morphine have been deleted, leaving seven articles of this kind in the Ninth Revision. It is to be noted that in the case of powders containing vegetable drugs excellent descriptions have been provided. In case of Compound Effervescent Powder, the quantities of material which must be found in the blue paper is given, and an assay process for both Sodium Bicarbonate and Potassium and Sodium Tartrate provided.

Spirits.

The number of these has been reduced from 20 to 15, and a further reduction in number might very properly have been made. Among those which are deleted will be found Spiritus Frumenti and Spiritus Vini Gallici. Much can be said in favor of as well as against the wisdom of deleting these articles.

The deletion of Compound Spirit of Ether is, in my opinion, entirely justified, although there is much criticism on this account. The difficulty or even impossibility of obtaining ethereal oil of uniform quality and composition is a well-known fact, and this led to a great variation in the kinds of Compound Spirit of Ether which pharmacists were accustomed to supply. Physicians object very strongly to this lack of uniformity and a great many of them prefer to use Spirit of Ether. Whether or not the adoption of the synonym "Hoffmann's Drops" for Spirit of Ether is justified will, of course, be a matter of opinion.

The deletion of Spirit of Ammonia is likewise justified. This spirit finds so little use and varies so much in ammonia content, even when carefully kept, and it can hardly be considered of sufficient importance to have merited retention.

Liniments.

The number of liniments found in the ninth revision corresponds with that found in the eighth. There have been no additions or deletions.

The formula for Ammonia Liniment has been much simplified, the liniment consisting of a mixture of Ammonia Water and Sesame Oil, the directions being to agitate the constituents until a uniform mixture is obtained. The change from the formula contained in the eighth revision should prove satisfactory.

Camphor Liniment is stated to yield not less than 19.5 Gm. nor more than 20.5 Gm. of camphor in 100 grammes of product. The method of preparation has been improved.

The alcohol in Soap Liniment has been reduced slightly. The resulting product, however, is hardly of superior value on this account.

Waters.

The paragraph entitled *Aquae* found in the eighth revision has been deleted, but in essence has been reproduced under the title of *Aquae Aromaticae*. All of the waters of the eighth revision have been retained and Sterilized Distilled Water has been added. Solution of Hydrogen Dioxide has been included among the Liquors, where it properly belongs. The reason for retaining Creosote Water is not at all apparent. The quantity of Creosote it contains is so small that it is of no value medicinally and its use as a vehicle will hardly be justified or recommended.

A working formula for Hamamelis Water has been

quite properly omitted. A description and tests for purity have been added.

The direction, "Aromatic Water should not be allowed to freeze," found under the title *Aquae Aromaticae*, is not as superfluous as it might first appear to be. In any case where these waters are subjected to low temperatures their value is materially impaired.

Liquors.

Antiseptic Solution, Solution of Mercuric Nitrate and Compound Solution of Sodium Phosphate have been dropped, and Compound Solution of Chlorine has been transferred to Part 2. Liquor Hypophysis, Liquor Sodii Chloridi Physiologicus and Liquor Sodii Glycerophosphatis have been added. The number of official liquors might have been further decreased without seriously interfering with the value of the Pharmacopeia.

The formula for Compound Solution of Cresol in the new revision will yield a finished product superior to that found in the eighth revision. The addition of a small quantity of alcohol and the reduction in quantity of Linseed Oil are steps in the proper direction.

In the case of Solution of Magnesia Citrate, authority is given to employ Sodium Bicarbonate in proper quantity in place of Potassium Bicarbonate. Such use will, of course, not influence the action or value of the preparation in the slightest degree.

The deletion of Solution of Mercuric Nitrate will hardly attract attention. Why this solution should ever have been honored with a place in the Pharmacopeia is a mystery.

The addition of Physiological Solution of Sodium Chloride is to be commended. It is used frequently and a standard is most properly provided. The same may be said concerning Solution of Sodium Glycerophosphate. It is not quite clear why Solution of Zinc Chloride should have been retained.

Elixirs.

It is to be regretted that Elixir of Iron, Quinine and Strychnine Phosphates has been deleted and not taken up in the National Formulary. It is conceded that the formula of the eighth revision was not an ideal one and that a satisfactory product could not always be obtained even when following directions carefully. It would seem, however, that it would have been possible to devise or construct a formula which would have yielded a satisfactory product. Manufacturers certainly produce this elixir in a most satisfactory manner both from a pharmaceutical and a therapeutical standpoint. A statement found on page xiii of the fourth edition of the National Formulary to the effect that it became necessary to drop the Elixir from the Pharmacopeia because of difficulty or imperfection which rendered it pharmaceutically unsatisfactory would seem to be unfortunate, to say the least. It will be construed as an admission that the Revision Committee was unable to construct a proper formula when it is well known that a perfectly satisfactory article is marketed by many manufacturers. Perhaps it was not so much the inability to recommend a satisfactory formula as an inability to agree on one of the several formulas under consideration which led to the deletion of this article. Unfortunately a formula for this elixir is likewise found missing in the new National Formulary, and for the same reason as it is claimed. An article in such common use cannot be relegated to the scrap heap by any revision committee. The fact that it does not appear officially will not deter physicians in the least

from prescribing it, and the pharmacists will be compelled for many years to come to supply this elixir.

Emulsions.

The deletion of Emulsion of Chloroform and Emulsion of Cod Liver Oil with Hypophosphites will be approved.

The employment of Methyl Salicylate in place of Oil of Gaultherium as a flavoring agent in Emulsion of Cod Liver Oil is perfectly proper. The former was in general use at most times when it was supposed that the article employed was genuine Oil of Wintergreen.

Mucilages.

Mucilage of Acacia and Mucilage of Tragacanth are the only ones which have been retained, and they would seem sufficient in number to meet all ordinary requirements.

Infusions.

The principal change noted is the deletion of Infusion of Wild Cherry, which, however, can very well be spared. Infusion of Digitalis is now directed to be made without addition of Alcohol, but is required to be freshly made from the leaves when wanted.

This change in formula cannot be too highly commended. The writer knows that Infusion of Digitalis, almost old enough to vote, was dispensed. It was sought to justify such action by the statement that owing to its alcohol content it would or could not decompose. The infusion will hereafter have to be freshly made, and a more satisfactory product from a therapeutic standpoint should result.

Syrups.

The ninth revision contains 21 syrups besides Simple Syrup. This is a reduction of 7. The deleted syrups are in the main unimportant and a number of them have found a resting place in the Fourth Edition of the National Formulary. It would seem unfortunate to the writer that Syrup of Lime has been dropped entirely. It is used extensively and a standard should have been provided.

Troches.

The reduction of the number of kinds of troches from 9 to 5 will not be criticised. In fact, if all had been deleted there would have been few mourners, more especially so as the National Formulary affords an abundance of formulas for this class of preparations.

Ointments.

Four deletions are noted, thus reducing the number of ointments now official to 20, inclusive of Simple Ointment. Other deletions might very properly have been made.

The reduction of the quantity of Paraffin in Ointment of Boric Acid is wise, as is also the increase in amount of Hydrous Wool Fat in Ointment of Belladonna. The reduction in quantity of metallic mercury in Diluted Mercurial Ointment from 33½% to 30% is made to correspond with the international standard.

Another illustration of getting back to first principles is noted in the case of Sulphur Ointment. In the eighth revision, washed sulphur was directed to be used. The formula in the ninth revision reads Sublimed Sulphur, and the product will be correspondingly more valuable.

Cerates.

Besides Simple Cerate, there are official only the Cerates of Cantharides and Rosin Cerate. Three of the Cerates of the Eighth Revision have been deleted. The formula for Ceratum Cantharides has undergone much change and the quantity of active constituent is slightly increased.

Oleates.

Only Oleate of Mercury is retained, all others being deleted, for all of which we should be thankful. The use of Distilled Water has given place to the use of a like quantity of alcohol in making Oleate of Mercury, a change which is desirable.

Oleo Resins.

Six of these are official, the same number as was found in the eighth revision. Oleo-resin of Lupulin has been dropped and Oleo-resin of Parsley Fruit added. The use of Ether as an extraction medium is recommended in place of Acetone in all but one of the formulas, namely, that of Oleo-resin of Cubeb, in which case alcohol is used as formerly.

Wines.

All ten of the eighth revision have been sent either to oblivion or have been incorporated in the National Formulary. In my opinion, this is one of the wisest acts of the revision committee, as a more useless and less uniform class of galenicals cannot well be imagined.

THE GIRL'S FEET: ELEMENTARY PRINCIPLES IN THEIR CARE.

ARTHUR C. JACOBSON, M. D.

Brooklyn, N. Y.

Weak-foot is an extremely common and disabling deformity, and one which ought to be recognized and treated at an early period, when reconstruction is possible. Better still, it should be prevented. The inefficiency due to this condition is much greater than is commonly supposed. A little thought will convince anyone that the possession of strong and useful feet is almost an indispensable factor in life. Those of us who are blessed in this respect are apt to miss the importance of the subject unless our attention is specially drawn to it through some circumstance, just as we are blissfully unconscious of our stomachs until something happens to make us painfully aware of their workings. We don't fully realize how wonderfully and efficiently nature has endowed us until some snag is struck and a bodily mechanism thrown out of gear.

The prevention of foot troubles should begin, then, during the girl's early life. We should by no chance wait until partial or complete crippling overtakes her, for then we are confronted by vast difficulties oftentimes, perhaps insurmountable ones. Whether a girl takes up nursing or any other occupation necessitating foot work, or whether she is destined for the domestic sphere, her feet should not be left to themselves while all attention is bestowed upon education, accomplishments and special training. Of what use are all these things if the individual is a near-cripple? To be handicapped in respect to the feet is as bad as being partially deaf, or fractionally blind.

Weak-foot is more often recognized to-day than ever before, since the economic loss entailed by it has finally awakened keen interest. Unfortunately, however, the recognition is usually deferred to adult life, when the individual finds herself hampered by her disability in the pursuit of happiness and economic independence. As yet, the feet of children are slighted. However, not only is the condition recognized more frequently now because of its economic bearings, but it is a fact that it is far more prevalent than ever before, and is still increasing in frequency. These facts, naturally, serve to call special attention to it.

Why is it increasing? City life has much to do with

the increase. Our hard pavements and the giving up of the muscular development that comes from going bare-footed have bearings on the subject. The bare-footed child in the city, parents are afraid, might be taken for a neglected and poverty-stricken slum dweller. And so even in the home the feet are encased from the earliest period in leathern splints. Then the matter of diet has to be considered. Soft diet makes soft tissues, and, along with dental deterioration, goes deterioration of the feet. Strong bones and ligaments, and powerful muscles, are not to be developed upon the basis of a mollicodde diet. Our children, very often, have their food so cooked that no mastication worth speaking of is required. Then they are "fed" upon goodies at the table, supplemented by ice cream soda and candy on the outside. All this makes for tissue deterioration. The influence of overweight can readily be comprehended, while prolonged illness naturally favors weak-foot for equally obvious reasons. Of very great importance is posture. It is a traditional practice to teach children to *walk* with the toes turned out, the most pernicious practice that could possibly be thought of. In the home, school and dancing academy the girl is so instructed. Then shoes designed to look stunning favor faulty posture. These shoes are actually made upon lasts which make the feet turn out, and their pointed toes and high heels directly encourage weakness and contraction of the tendo Achillis. Sometimes the mistake is made of thinking that the symptoms that trouble the girl are not due to weak-foot, because the arch is not broken down despite the habitual bad posture. They are often ascribed to rheumatism. There should be routine examinations made of all children so as to discover the prospective cases, instead of letting them go until adult life is reached and the resulting disability unfits the victims for efficient lives.

The human foot has two functions. For passive support in merely *standing* the feet are naturally turned out to maintain equilibrium. The muscles are relaxed, the ligaments doing the work of fixing the joints. That is all right for short periods. But in *walking* the foot becomes a lever for lifting and propelling the body. Now as a simple engineering proposition the least amount of strain should develop the greatest amount of power. In walking properly, with the feet parallel, the weight of the body is borne first on the heel, then on the outside of the foot, lastly upon the ball of the foot, the toes giving a ground-gripping push at the end of the step, which last, it can readily be seen, is not possible when the girl walks with the feet turned outward. Thus our engineering proposition is well met and there is no fatigue or pain due to undue strain. On the other hand, in walking improperly the weight of the body falls on the inner side of the foot and our lever has no fulcrum to work upon such as is provided on the outer side of the foot, or at any rate such a partial fulcrum as we may have is not a powerful one. The strain is then tremendous. If the bad habit is persisted in tendencies to displacement of the bones of the feet occur, and sometimes the most important bone of all is actually dislocated.

A recent examination of high school children in New York showed that 32 per cent. had weak-feet and about 18 per cent. the worst form of flat-feet, the arches being completely broken down.

What are the symptoms of weak-foot? They are weakness, fatigue, awkwardness, and sometimes pain. In very young children with a tendency to rickets the faulty posture tends to favor other deformities of the lower extremities, such as knock-knees and bow-legs.

The weak-footed girl is not active, complains of tire, and avoids much playing or walking. She is apt to be round-shouldered and to have a feeble appetite. Pallor is sometimes noted. Not many of the cases have pain. To hop on the toes and ball of the foot may be difficult or even impossible.

As soon as a child begins to walk, proper shoes should be put on or none at all. Provision should be made for freedom of the toes. The high laced shoe is better than the low or buttoned one. The inner line of the shoe should be straight. The shank should slope to the outer side and should be high and narrow. Walking with the feet parallel will also be facilitated by having the forward part of the sole slope slightly outward. In the presence of weak-foot the inner border of the sole should be raised one-quarter inch. The girl soon becomes steady on her feet and her awkwardness disappears. The gait becomes strong and springy and the arch is seen to be developing. The best exercise is walking, but this may be supplemented in some cases by special exercises, for example, quick rising upon the toes while toeing-in, followed by a slow return of the heel to the ground, this to be repeated quite a number of times twice daily. Metal supports of the sort which flood the market are, as a general proposition, to be condemned, for they merely support the arch by pressure and do not correct the tendency of the feet to turn out. Moreover, they prevent voluntary correction as a rule and make it unnecessary for certain muscles to act whose action and development are essential for a cure. Cases attended with much pain or muscular spasm have to be strapped for a time with adhesive plaster. Some cases of spasm are so bad that the feet have to be put in correct position under an anesthetic and held there by plaster of paris casts for a month, after which strapping, braces and exercises are employed in the order named.

The writer wishes to emphasize the fact that while this condition may not cause serious disability in childhood, it must be approached with a view to its potentialities in later life, in the way of interference with occupations through which livelihoods are to be gained. All parents must be brought to realize their responsibilities in respect to prevention. We must do everything possible to turn our children into efficient adults, and this matter of the girl's feet is second to hardly any other in importance.

In conclusion, it is apropos to allude to the relation sustained by present-day modes of dressing to weak-foot, as well as that sustained by too great devotion to sorority activities, to the exclusion of well-rounded interests, particularly athletics. With respect to the latter factor, the fraternity devotee who finds that on the days that her secret society meets she is likely to be ordered out for basketball is not apt to go in for basketball or anything else. There are such devotees, and between their physical inactivity and their "eats," muscles suffer; for we know what the "eats" consist of. Regarding dress, narrow skirts which confine the ankles or lower limbs closely certainly do not make for nether freedom and development. It may well be imagined that the helpless dolls whom we often see tottering along, like Chinese women with their crippled feet, are not likely to possess strong pedal extremities. Let us pray for the sake of our girls' feet, as well as for many other good reasons, that some of the styles that we have known will never come in again. We bespeak the mercy of the Parisian gods who ordain the fashions.

115 Johnson St.

Five Minute Clinical Talks

QUALITATIVE REGULATION OF THE DIET IN DIABETES MELLITUS.

EDWARD E. CORNWALL, M. D.,

Brooklyn, N. Y.

That the treatment of diabetes mellitus consists essentially in regulation of the diet has long been recognized; but the details of the regulation have not yet been finally and completely worked out. In reviewing the progress which has been made along that line, we find that for a considerable period the only point to which much consideration was given was restriction of carbohydrate; next, some selection of carbohydrate was attempted, in order to determine the forms of carbohydrate which were best tolerated; and lately, quantitative regulation of the protein and fat rations has been practiced, along with the carbohydrate restriction.

That the regulation of the diet in diabetes should be qualitative as well as quantitative, and especially so in respect to the protein ration, seems a reasonable proposition, in view of the relationship which appears to exist between diabetes and perversion or insufficiency of nitrogenous metabolism, as the latter is manifested by gout, gravel, arthritis, migraine, asthma and a tendency to nephritis and cardiovascular disease. This relationship apparently involves obesity also, which is frequently found associated with diabetes, and which is also closely related to insufficient nitrogenous metabolism. In constitutional diabetes these relationships appear more or less distinctly; and it is not easy to separate definitely constitutional diabetes from the forms directly traceable to lesions of the pancreas and nervous system.

The following observations seem to have a bearing on the relationship between carbohydrate and nitrogenous metabolic insufficiency in diabetes.

Basin and Bouchard described under the names "arthritis" and "slackening of nutrition" a group of conditions, including gout, asthma, rheumatism, gravel, gall stones, obesity and diabetes, which are frequently met with in the same individual or the same family, and which are transmissible by heredity and are interchangeable: a gouty subject who has or has not diabetes may have a child who develops diabetes, asthma or gravel, etc.

Thompson and Waller found that the giving of meat extractives was followed by increase of glycosuria.

Roper and Brown found that diabetics who had a tolerance for meat or oatmeal separately did not have it for both together.

Von Noorden found a difference in effect on glycosuria of different proteins, that of meat being most productive of glycosuria, and that of wheat the least. He also found that under certain circumstances large quantities of carbohydrate could be tolerated by diabetics if no meat was taken at the same time.

Horowitz found a diminution of glycosuria after ingestion of cultures of the lactic acid bacillus.

Guelpa, Naunyn and Allen found that short periods of starvation, in which there was deprivation of protein and fat as well as carbohydrate, had a favorable influence on glycosuria.

The writer has seen cases of diabetes of the milder types easily relieved of their glycosuria by a carefully regulated, approximately lactovegetarian diet, in which there was only moderate restriction of carbohydrate.

A bond of connection between carbohydrate and nitrogenous metabolism may perhaps be found in the fact that the liver, which is the chief organ for the preparation for utilization of absorbed carbohydrate material, occupies itself also very largely with the preparation for utilization of absorbed protein material. In fact, the nitrogenous metabolic function of the liver appears to be relatively as important as the other, although less striking and obvious. It seems to consist essentially in a sifting process, and in further modification and splitting of the protein fragments which are brought to it, for the purpose of rendering them more useful or less injurious to the body. The following observations seem to bear on this nitrogenous metabolic function of the liver.

It has been found that blood drawn directly from the portal vein contains twice as much ammonia as that drawn directly from the inferior vena cava.

Increase in ammonia nitrogen has been found in certain diseases and functional disorders of the liver.

Dogs with an Eck's fistula (which turns most of the portal blood directly into the inferior vena cava, so that it does not pass through the liver) which were fed on a meat diet, developed convulsions and died, while those which were fed on a cereal diet continued apparently well.

Starvation experiments have been made which tend to show that the nitrogen in the urine which represents actual tissue metabolism, is creatinin nitrogen.

Matthews, in his text book on physiological chemistry, says that the place where the ethereal sulphates, which are the products of the putrefaction of protein, are paired with sulphuric acid to make the conjugated sulphates, is in the liver.

While the joint occupation of the same plant by the sugar factory and the split-protein refinery does not necessarily imply an interdependence between them, it suggests it. The fact that a common vascular arrangement exists in the common plant may have some force; and the fact that enlargement of the liver is frequently observed in diabetes, may also be of significance.

The evidences of relationship between carbohydrate and nitrogenous metabolic insufficiency which have been briefly alluded to, are, indeed, far from conclusive, but they seem sufficient to warrant us in making such qualitative regulation of the protein ration in the diabetic diet as will favor an actual or potential insufficiency of nitrogenous metabolism.

Qualitative regulation of the protein ration involves selection of articles of food so as to secure the requisite quantity and variety of amino acids with the least possible quantity of toxic protein fragments. The ideal protein containing article is milk, from whose protein can be obtained by digestive cleaving all the different amino acids needed by the body, and in approximately correct proportions; and whose protein is put in free and comparatively resistant to injurious bacterial changes in the alimentary tract. A convenient form in which to give milk protein, when milk itself cannot be used in sufficient quantity on account of its carbohydrate content, is curd or cottage cheese, which can be combined with other suitable articles in many tasty ways. Cottage cheese has very nearly the same protein content and fuel value as lean beef. This qualitative regulation also requires that animal flesh and eggs be restricted in amount or excluded altogether, instead of being used for the chief or only source of protein, as is done in most diabetic diets. Animal flesh is easy of digestion, rich in the variety of amino acids which

can be derived from it, and agreeable to the taste, but it directly introduces purins, and in its breaking up in the alimentary canal, supplies a comparatively large amount of poisonous protein chips.

Besides qualitative regulation of protein, it is proper to select the other articles of food with due regard to their possibilities for bad as well as good. The fats, as ordinarily given, do not require much selection (though they may restriction). It is usually desirable to include some butter in the ration, not only because of its digestibility and agreeable taste, but also because it contains some substance of the nature of a vitamin. The vegetables call for considerable selection, so as to exclude those like mushrooms and dried beans (found in most diabetic dietaries), which have a large purin content, and those like cooked cabbage, otherwise unobjectionable, which are indigestible. Individual food idiosyncrasies should always receive consideration.

1218 Pacific St.

FURUNCULOSIS OF THE EAR CANAL.

HAROLD HAYS, M. D., F. A. C. S.

ASSISTANT SURGEON IN OTOLGY, NEW YORK EYE AND EAR INFIRMARY; CLINICAL INSTRUCTOR IN OTO-LARYNGOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS.
New York.

There is no more painful condition with which the otologist has to contend than furunculosis of the ear canal. This does not even except inflammation of the middle ear.

In the majority of instances, furuncles are the result of an infection of a hair follicle, the causative organism in most cases being the staphylococcus aureus. As a rule the cases are not serious, but I have known of two patients who developed mastoiditis by a perforation of the pus through the posterior canal wall. The predominant organism in both these cases was the bacillus coli communis. The furuncle was caused by a scratch from a dirty finger nail. One of the patients died.

The site of election for a furuncle is on the tragus, but such an infection may occur anywhere in the canal. I have seen multiple furuncles extending back as far as the membrana tympani. At first the patient may note merely a small, tender swelling—i. e., a "blind boil." Within a short time, however, a perichondritis develops around the "core" until the entire ear canal is closed. The intense pain is due to two factors, i. e., the perichondrial inflammation and the pressure on the inflamed parts.

Many patients have a tendency toward furunculosis, especially those who have dry ear canals which itch. The patient scratches or else uses some instrument in the ear. It is unnecessary to state that the use of any instrument in the ear canal is often harmful and leads to dire results. I operated on a child for acute mastoiditis a short time ago who stuck the end of a toy flag in her ear, thus injuring the canal and drum.

In the early stages of furunculosis or in those who have a tendency to dry ears, one may avoid any serious developments in the majority of cases by the careful application of a one per cent. yellow oxide of mercury ointment.

It is almost impossible to open an ear furuncle under local anesthesia unless it is "pointing." The pain is excruciating. If gas is available, it should be used in preference to ether or chloroform. Many of these small abscesses are deep-seated. Before the anesthetic is administered one should probe for the tenderest spot. An old sharp Graefe eye knife is the best incisor to use.

The incision should be made clean and deep until the seat of the abscess is reached. Frequently no pus can be seen, either because one has not reached to the deepest part or because the hemorrhage is so severe that it cannot be seen. However, even if the pus has not been reached, the tension is considerably relieved and the pus will break through in the course of a few hours. After incision, the canal should be packed with a thin strip of gauze soaked in a solution of aluminum acetate. The patient should be instructed to keep the gauze constantly saturated for the first twenty-four to forty-eight hours. A second or third incision may be necessary. New furuncles may form in other parts.

The treatment as outlined above will relieve the majority of cases. However, intractable cases are often met with, particularly in young, ill-nourished individuals who have no resistance. A few years ago I had a young man under my care who suffered from general furunculosis. He developed a furuncle in his ear canal which had to be opened five times. At the last operation, a culture of the pus was made from which an autogenous vaccine was prepared. Ten doses of the vaccine cured the condition—the operations did not.

11 West 81st Street.

ASPHYXIA NEONATORUM.

WILLIAM J. FAIRCHILD, M.D.,

Norwich, N. Y.

What may be termed "The Mechanical and Passive Respiration Method," is going the rounds in medical literature, setting it forth as a new method of resuscitation of the new born, given by Dr. Serafino Marmon. He gives a detailed description of the placement of the operator's hands as a first step called the "inspiratory position" for the procedure embracing two movements made close together in two or three seconds, accomplishing what he terms "the mechanical and passive inspiration," followed immediately by a "mechanical and passive expiration" produced by a concentric pressure over the walls of the thorax by the spread-out hands of the operator.

This procedure, in the main, is not new, but has been employed under more or less similar technic by doctors and midwives from time almost immemorial.

Blocked or delayed respiratory function of the new born, seldom if ever requires such artificial, mechanical, outside force to be applied; yet its use is most usually relied upon to overcome such a condition.

The potential, latent energies of the body, in both child and adult, represent great and unmeasured possibilities of power, which, when rightly called into action by a forceful or extraordinary stimuli, will often prove most dependable as the capsheaf in saving and preserving life to a remarkable extent,—and too, at times when most needed and least expected.

At the termination of the second stage of labor, when the child, suddenly liberated from stressed pressure and the warm, protective fluid around it, is plunged into the cooling, stimulating air, and does not begin to breathe, the physician must quickly install such measures as will resuscitate and establish respiration. To call into play sufficient or extraordinary stimuli on the life forces to initiate this most vital function, takes but a moment if successful, and it almost invariably so proves when properly directed.

The writer's technic is as follows: See that the upper air passages are clear for the entrance of air; place the infant facing the physician in a slightly inclining

backward, upright position of the body with his hands supporting the infant's back and head, held just at the right pitch to favor the most direct ingress of the air. Have the nurse at hand with a glass of cold water, the colder the better, to give the physician a mouthful of it from time to time. He then spurs it from his mouth in forceful jets against the front of the thorax,—the first time or two even including the neck and face.

From such a water slap, the regional reflexes awaken with a fury. The diaphragm and all of the accessory muscles of inspiration, ordinary and extraordinary, become thrilled with active life and start up like clock work. The lungs inflate. We hear the suction of air as the child gets its first intake. This is at first a most rushing, hurried vital inspiration, due to the explosive muscular action distending the chest. This is quickly followed by reaction, the muscles relaxing and the chest contracting, forcing the air out, and producing a normal exhalation. Thus the in-and-out-lung-air-route is inaugurated. A few repetitions of water blowing at the rate of one time to every four seconds,—and the respiratory function is a certainty. The emergency crisis is passed. The baby hails it with a cry, and all are happy.

This method I have employed for a long time. Many babies, if they but knew, could testify, as their mothers can, of its life saving value. It came to me, as it were, somewhat, if not altogether, spontaneously in my emergency needs, yet the buccal action I probably got from observing the Chinese manner of clothes sprinkling. Nurses and students under me have learned it, but so far as I know my method has never been published. For aught I know, it may be very old, but it is valuable for doctors to practice,—a physiologic method, the easiest, best and first that should be used. It will never occasion damage to shoulder, muscular or bony attachments from inexperience or nervous haste.

The new born child is a bunch of physiologic forces with their reflexes and exhalators, at hand for a touch and go. The brand new mechanism, though unadorned, is all harnessed in full preparedness to respond. Life is there to render highest service. Catch it before it sparks out and away beyond recall.

Great is the super-vito-motor human machine! Unhandicapped, as Nature intends, it starts running with all of its parts adjusted and balanced, having their normal physiological division of work allotted them and accurately gauged for a long and successful life of service.

Colonia Bldg.

Diagnosis of Human Glanders by Blood Culture.

Kostrzewski (*Centralbl. f. Bakt.*, vol. 77, p. 418, 1916) has drawn attention to the possible diagnostic value of blood culture in glanders. A soldier was attacked by fever and joint pains and had a painless swelling over the upper part of the sternum, which was incised, and yielded a small amount of thick yellowish-brown pus. After twelve days of illness multiple hard subcutaneous nodules developed. Pus obtained from these showed scanty bacilli on microscopic examination, but cultures remained sterile, and intraperitoneal inoculation into guinea-pigs yielded negative results; at the same time the culture in 8 c.cm. of the blood in 50 c.cm. bouillon yielded a growth of *B. mallei*. Later there appeared the characteristic papules turning into pustules, and death occurred with the clinical phenomena of acute glanders infection after a duration of seventeen days. The negative findings with the pus while the blood culture gave a positive result exemplify the important information which may be obtained from this procedure in cases of generalized infection.—(*Brit. Med. Jour.*, July 15, 1916.)

The continuous liberal use of alcoholic beverages lowers efficiency and menaces longevity.

The Diagnostic Laboratory

Conducted by CHESTER T. STONE, M. D.,
Brooklyn, N. Y.

(Continued from Page 313, October issue.)

Sardou's Test for the Blood in the Urine.

G. C. Cumston (*Am. J. Urol.*, 1915, xi 364) continues: If the urine contains blood a more or less intense rose color should appear, according to the amount of blood contents present. The reaction is complete in from a few seconds to three minutes and retains its intensity for some time.

The test is quite as reliable as microscopic examination and has advantages over the latter, as according to the degree of molecular concentration of the urine, due principally to chlorides, the globules often undergo hemolysis and can not be seen microscopically; also in hemoglobinuria the microscope is useless.

Sardou has been able to obtain a slight reaction at the end of five minutes in a urine diluted to 1:5,000,000 and distinct reactions in urine diluted 1:1,000,000.

A more distinct reaction is obtained by filtering the mixture of urine, acetic alcohol and Meyer's reagent and adding 2 drops of oxygen, water to 4 ccm. of the filtrate.

Sardou says that no other body in the urine can give the reaction, such as albumin, glucose, urobilin, bile pigment, indican, phosphates, acetone or uric acid.

The same also applies to drugs such as antipyrin, the iodides and bromides, salicylic and carbolic acids.

Pus usually does not cause the reaction.

The Complement-Deviation Test as a Guide in Infections of the Urethra, Prostate and Vesicle.

T. V. Williamson and S. W. Budd (*South. M. J.*, 1915, viii 781) state that the complement-deviation is of great value in treating gonococcus infection of the urinary and sexual organs. The test becomes positive about the third to sixth week of the disease. It is frequently positive after all other methods to detect the presence of gonococci have failed. The test remains positive a month or two after a clinical cure. This period roughly corresponds to the time needed to develop antibodies in the blood at the beginning of the disease. The chief value of this test is in the chronic cases in which the existence of gonococcus is difficult to establish by any other method, and by it the authors state they are enabled to determine whether a man is still infectious or not even though he may have some slight discharge which the complement-deviation test shows is not due to gonococci.

The test also has a medico-legal value, particularly to determine who acquired gonorrhea first, as between a husband and wife, says V. D. Lespinasse.

The Margin of Error in the Wassermann Reaction.

Irving Simons, M. D., W. B. Goddard, M. D., and R. L. Jones, M. D. (*Interstate Med. Jour.*, Aug., 1916, p. 654), report a study of 1,000 tests made independently by two laboratories.

The two laboratories working independently on 1,000 tests agreed in the following technic:

They read results in the amount of complement deviated, i. e., only one amount of antigen is used. In order to do this, they deal with sufficient complement and cells so that there is a large volume of the fluid mixture in the tubes and the resultant reaction is microscopic and the reading easy. They use an antigen which has a large anticomplementary range.

They use two to two and one-half times the unit of complement necessary in that hemolytic system.

The specimens were divided into three series.

1. (372 specimens.) In testing these, each laboratory used their own methods and reagents throughout.

2. (284 specimens.) In testing these, each laboratory used their own methods and reagents throughout, but in addition, used the antigen of the other laboratory.

3. (344 specimens.) In these tests each laboratory used their own methods, but the reagents (sheep's blood, complement and amboceptor) were furnished by one laboratory on alternate days, in order that both laboratories would be using the same reagents at the same time. This was carried so far that complement and sheep's cell mixtures were made up to 5 per cent. strength, and then divided into two parts, in order that any error that might occur in diluting might be avoided.

The following conclusion resulted.

1. The results in Wassermann reactions carefully carried out with proper technic by two laboratories should yield a very high percentage of agreements; in the 1,000 tests, 93.5 per cent.

2. The index of error, while not negligible, would appear to be small in the 1,000 tests, 6.5 per cent.

3. Some of this error is due to the difficulty in the standardization of the sheep's blood, the complement and the amboceptor in as much as higher results were obtained when both laboratories used the same reagents.

4. More of this error was eliminated when in addition to this the same antigen was used by both laboratories.

5. The authors believe it advisable that two or more specimens of Noguchi's acetone insoluble fraction antigen be used in the Wassermann reaction.

The antigens employed in this series were:

1. An acetone insoluble fraction of the lipoids of beef heart (Noguchi's antigen). This is dissolved up to 3 per cent. strength in ether and methyl alcohol and this stock solution which is stable is titrated occasionally. For use it is daily emulsified in 14 volumes of 0.9 per cent. sodium chloride solution, so that 0.1 cc. (the amount used in the tests) will deviate the complement tested with a number of positive serums. This emulsion must not in itself be hemolytic in 0.5 cc. amounts. It also must not of itself deviate the complement unit in 0.6 cc. amounts. The emulsion must be freshly made for each day's work.

2. The acetone insoluble fraction of human heart, prepared after the method of Noguchi and conforming to all requirements suggested by him.

3. The acetone insoluble antigen, made of beef heart, prepared after the method of Coca and L'Esperance (*Arch. Int. Med.*, Vol. xi, No. 1, p. 891), which is the same as that of Noguchi, with the exception that the stock solution is a 2 per cent. solution of the acetone insoluble fraction.

The Wassermann Test in Pregnancy.

F. H. Falls and J. J. Moore, Chicago (*Journal A. M. A.*, August 19, 1916), discuss the subject of the Wassermann test in pregnancy under three main headings:

(1) Its value from the sociologic point of view; (2) its value from the medical point of view, and (3) theoretical serologic considerations. Under the first head they consider the case of the mother who may be, but usually is not, aware of the disease. Women much more often than men contract the disease innocently, unaware of its cause, and the situation of the

primary lesion is usually such as to cause little discomfort. It therefore requires close examination to detect it, and this is the more important, as they may be mothers of families.

Besides the evil to the mother from the tendency to miscarriage, etc., and the general debilitated condition caused by syphilis, the rights of the fetus must be considered. According to reliable authorities, there is a high percentage of cases in which mental deficiency of various grades is more or less due to congenital syphilis. Also the prevention of various deformities, such as saddle nose, keratitis, deafness, etc., is to be considered, and there is the indirect loss of life from syphilitic infection. The protection of society in general also is important, and besides the danger of infection, it is found that the criminal is very largely syphilitic, to which fact their moral and mental condition may be due.

Another group of individuals needing protection is that of the physicians who treat these cases, especially the obstetricians and also the nurses. Dr. Hyde has said that rarely a week went by that he did not have a case of infection of this kind. From the medical point of view, the test is now of such value that it has become a routine measure in many hospitals, dispensary clinics and asylums. The complication of syphilis in almost any disease may seriously influence the course and the treatment. The reaction is still only partly understood, and not a true immunity reaction.

In the test they made they used the antichicken hemolytic system, which they describe. The serums studied were obtained in a routine examination of the cases in the obstetric ward of the Cook County Hospital and a few private hospitals. A total of 160 women were examined. Only one gave a history of syphilis, and five gave doubtful histories. Eighteen, or 11.3 per cent., gave strong positive reactions.

They summarize the results of their investigations as follows: The Wassermann reaction is of great value in diagnosing syphilis in pregnant women, in whom the condition is usually latent. The diagnosis of this condition in mothers, with the institution of proper treatment, will prevent the increase of syphilitic children, and those born can be properly treated as soon as possible. The majority of mothers having syphilis are ignorant of it, and therefore are improperly treated. In a series of 160 pregnant women we found 11.3 per cent. positive Wassermans. In 116 married women, 10.6 per cent. gave a positive reaction. In 44 single women, 13.5 per cent. gave a positive reaction. White women were positive in 9.5 per cent. of the cases, colored women 28.5 per cent. Only one of the eighteen giving a positive reaction had a history of syphilis; six gave histories of previous abortions; three had severe complications of pregnancy, as eclampsia and mental psychoses.

An Invariable Blood Stain.

In some further studies, B. G. R. Williams, of Paris, Ill., gives this formula:

Mix.

Hematoxylin	2.
Acid, acetic, glacial	10.
Glycerin	100.
Alcohol, absolute	100.
Water, distilled	100.
Alum, potassium (an excess)	100.

Stop the container with a poorly fitting cork to permit some air to enter. Set aside for three to four months to let it ripen. Make certain that an excess

of alum powder is present, and shake occasionally. Finally, filter the mixture.

The invariable stain is made up by adding to this filtrate 0.1 gram of water soluble eosin. When this is dissolved, the mixture is ready for use.

Fixing the Stains.—The invariable stain is not self-fixing. Inasmuch as fixing provides perhaps the only source of error, more emphasis should be placed upon the directions for fixing than upon the staining technic. The alcohol-flash method of fixation is used, though it is possible that other good methods may answer. First of all, light a burner, as this provides for prompt ignition of the alcohol. With a suitable forceps, seize the slide and hold with film face upwards. Quickly cover the film with absolute alcohol and shake off excess by a quick movement. Immediately ignite the alcohol in the flame, remove from the flame and move it from side to side through the air, in order to hasten the evaporation and the burning. The burning should not continue after about five seconds, but should practically flash. If the ignition is prompt and the alcohol absolute, no injury will be done the film by either the heat or the alcohol. (If the spreading has not been properly carried out, but the films are too thick, they will soak up the alcohol and it will not flash.) When completed, the spread should be dry and perfectly fixed.

Use of the Stain.—After the slide cools, place it in a Coplin jar which has been filled with the invariable stain. After about fifteen minutes, the spread is stained, although better results are often obtained if it remains in longer; it will not be overstained by leaving in the mixture for several hours or days. Wash in water and dry by standard methods. The staining solution may be used indefinitely by adding to it from time to time, and keeping it covered to avoid evaporation.

Results.—The picture is that given by any hematoxylin and eosin method. The nuclei are stained deep blue and the nuclei figures contrast nicely. The various granules take their respective tints. The results are satisfactory for all diagnostic purposes. I have not used the method for staining plasmodia. By the use of this stain it is easy to diagnose the various anemias, leucemias, eosinophilias, and so on. Differential counting is much more satisfactory than with Wright's because of the excellent nuclear staining. The formula fills practically every qualification demanded of any blood stain.

It is not difficult to make up the staining solution, but when desired it may be secured ready for use from two large optical companies or from jobbers.

A Test for Syphilis with Mercury Bichloride in the Blood Serum and Cerebrospinal Fluid.

George B. Ubel, of Ithaca, N. Y. (*N. Y. Med. J.*, Sept. 9, 1916) observes that the principles of this test are based upon a few of the recognized facts in chemistry relating to the action of colloids, viz., first, that bacteria react in accordance with all the established facts pertaining to colloids; secondly, one colloid may be absorbed by another colloid, preventing its precipitation when a mild precipitant is added. By assuming that normally there is a colloid present in the blood serum which is not present in the cerebrospinal fluid, the test may be satisfactorily explained.

The addition of a one in 100 solution of mercury bichloride to the non-syphilitic blood serum will precipitate the colloid which is normally present, and a turbidity will result, but if the serum is syphilitic the colloid of *spirochaeta pallida* protects or absorbs the

colloid normally present in the blood serum and hence the serum remains clear when the precipitant is added.

The reaction on the spinal fluid is just the reverse, i. e., normally there is no colloid present, hence when the bichloride solution is added no precipitate is formed, but in a syphilitic spinal fluid the colloid of the *spirochaete* is present and is precipitated by the solution.

Technic.—The technic is described by Dr. Gorden, of Philadelphia (*N. Y. Med. J.*, Feb. 20, 1916), though he made no attempt to explain the principle of the reaction. To several c.c. of clear serum, in a clean test tube five to ten drops of 1 in 100 mercury bichloride solution is added. If the serum is non-syphilitic, a white, flocculent precipitate will be formed, giving the serum a turbid appearance in from a few seconds to three minutes, and, if allowed to stand several hours, the precipitate will settle to the bottom of the test tube. On the other hand, if the serum is syphilitic it will remain clear.

The technic for testing the spinal fluid is the same as for testing the blood serum, but the results are reversed, i. e., a non-syphilitic spinal-fluid remains clear and the syphilitic spinal fluid becomes turbid when the solution is added.

The blood should be withdrawn four or five hours after a meal, as this insures a serum free from chyle and therefore much clearer. A clear spinal fluid is also imperative, hence the test should not be attempted on a blood-tinged fluid.

62 Pierrepont St.

Local Treatment of Nerve Lesions.

Hesnard (*Arch. d'électr. méd.*, No. 399, 1916) has found a local treatment by x rays of considerable benefit in cases of injury to the nerve trunks. In addition to the ordinary irradiation of the territory of the affected nerve, he practices a deep and intensive irradiation of the nervous cicatrix and the perinervous cicatricial tissue. He has also employed local massage of the nerve at the point of lesion, as well as mechanical vibration, local heat, and antisclerotic medication. As to this last, he states that the medicament which has given the clearest results is fibrolysin, in intramuscular and hypodermic injections. He has used it in about 40 cases of wounded, with unequal but real results. The result is only obtained at the end of ten or twelve injections at least, and the amelioration is sometimes indicated by painful paraesthesia and tingling in the sphere of the nerve.

Other procedures he has tried have been radium for superficial lesions and galvanization; but no method appears to him to have so great a future in the local treatment of nerve lesions as x rays. He does not claim to have improved all cases, but the ameliorations form a very large percentage. He only employs surface irradiation in a bad case of adherent superficial cicatrix, and then only during the first sittings. Ordinarily he uses filters of $\frac{1}{4}$, 1 and 2 mm. in thickness, the last most frequently. Hard rays are used (from 6 to 9 degrees Benoist), and as large a dose as is compatible with the integrity of the skin is given. Frequently he practices cross-fire irradiation. Sittings are repeated every five or six days. Sometimes the relief is immediate, and shows itself in a much greater facility of movement and a diminution of painful phenomena. He has also seen amelioration in cases of intense motor trouble with complete right deviation and very pronounced muscular atrophy. In some cases slight disturbances of sensation have been produced, such as paraesthesia and neuralgia, but these have disappeared little by little, while at the same time there has been greater or less recovery of the motor functions. The more recent the lesion, and the more accessible owing to its superficiality, the more successful is the treatment. X rays appear to act like other procedures, but in a more elective fashion, against the sclerosis.—(*Brit. Med. Jour.*, July 15, 1916.)

Painful conditions about the heel most commonly met with may generally be traced to:

1. Injuries or strain about the insertion of the tendo Achillis.
2. Spurs of bone and adventitious bursae under the os calcis.
3. Osteitis and periostitis from direct injury of the os calcis.

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

Officers for the Year 1917.

The next meeting of the Association will take place in Boston, in 1917. The following officers were elected for the year 1917:

President, Dr. Wm. A. Pearson, Philadelphia; first vice-president, Dr. Roger M. Griswold, Kensington, Conn.; second vice-president, Dr. George L. Monson, Denver, Col.; registrar, Dr. John M. Craig, Germantown, Pa.; secretary-treasurer, Dr. James Krauss, Boston; research committee—for 3 years, Dr. H. Lyons Hunt, New York; for 2 years, Dr. W. A. Pearson, Philadelphia; for 1 year, Dr. H. W. Nowell, Boston; educational committee—for 3 years, Dr. John Hall Smith, Boston; for 2 years, Dr. G. Betton Massey, Philadelphia; for 1 year, Dr. M. W. McDuffie, New York; journal committee—for 3 years, Mr. Alfred W. McCann, Yonkers, N. Y.; for 2 years, Dr. Alice Conklin, Chicago; for 1 year, Dr. E. W. Young, Seattle, Wash.; membership committee—for 3 years, Dr. D. E. S. Coleman, New York; for 2 years, Dr. Jefferson D. Gibson, Denver, Col.; for 1 year, Dr. Alonzo J. Shadman, Boston.

RECTAL DISEASES.*

A Review of Twenty-Seven Hundred Cases.

JAMES HENRY STUART, M. D.

and

FREDERICK H. WILLIAMS, M. D.

Boston.

Clinical and pathological observations concerning rectal diseases have hitherto been compiled from hospital data and it has been exceptional to see anything approaching a comprehensive review of cases treated in private or office practice. Notwithstanding the undoubted advantage to the physician and patient of rest in bed and a careful hospital regime, we do not share in the belief of many that rectal diseases are always properly and necessarily hospital cases. First, because excellent results are obtained under local anesthesia in the office and second, because there are thousands of rectal diseases just as there are thousands of obstetrical cases, which cannot or will not go to the hospital. Of the twenty-seven hundred cases reported, 2,423 were given office treatment and 277 cases were operated in the hospital or at home. Many of the patients, who received ambulant care, we should have preferred to have operated in the hospital, yet, it can scarcely be said that they were less fortunate, because of their preference for office treatment.

In rectal practice, the number of males exceeds the females. The proportion in our practice has been a little less than two to one. It should not be concluded that men are more vulnerable, because of their more prompt attention to this common disorder; but rather that both sexes are about equally afflicted and for reasons of false modesty, stoicism, or insouciance many women refrain from making their ills known and suffer in silence.

Our tabulations have been compiled from records covering 3,400 cases treated during the past twenty-five years. Previous to twenty years ago, records were not kept and it was found desirable to base our conclusions upon 2,700 cases treated since that time.

*Read at Seventh Annual meeting of the American Association of Clinical Research in Philadelphia on Sept. 25, 1915.

The following table will indicate the number and character of cases treated, arranged in the order of their frequency:

	Male	Female	Total
1. Piles Int.	771	397	1,168
Piles Thromb.	126	68	194
Piles Ext.	36	21	57
2. Fistula	231	94	325
Abscess	49	15	64
3. Fissure	116	131	247
4. Pruritus Ani	129	31	160
5. Ulceration	51	19	70
6. Hypert. Papillae	40	15	55
7. Prolapsus	34	16	50
8. Colitis	32	14	46
9. Incontinence	21	7	28
10. Proctitis	27	11	38
11. Syphilis	16	13	29
12. Benign Growths	18	7	25
13. Cancer (Rectum)	16	8	24
(Sigmoid)			
14. Stricture	8	14	22
15. Cryptitis	12	8	20
16. Patulosis Ani	6	5	11
17. Gonorrhea	1	7	8
18. Impacted Feces	2	5	7
19. Eczema	4	3	7
Incomplete record			
Examination negative			
Coccygodynia	20	25	44
	1,776	924	2,700

Hemorrhoids (1168).

Statistics obtained and conclusions drawn from records in private practice vary from those to be found in hospital data. Medical clinics would be deficient in fistula records for these cases would be referred to surgeons or to surgical clinics. A children's clinic would be devoid of proctologic interest, except for rare malformations, prolapsus, and its common cause, proctitis.

In order of prevalence, hemorrhoids must be ranked first of all rectal diseases. About one-half of our cases fall in this class. A study of three hundred cases treated by the electrolytic or injection method may be profitably compared with the same number of cases treated at St. Mark's Hospital, London, and tabulated below upon a percentage basis, according to the report of H. Graeme Anderson:

	Ligature	Cautery Clamp and	Whitehead	Electrolysis	Injection
Pain—					
Severe	10	0	16	0	4
Moderate	57	30	56	8	17
Slight	33	70	28	36	41
Absence of	0	0	0	56	38
In Hospital or Detained from Duties, days...	21	10	26	0-3	0-9
Requiring Catheterization.	10	0	6	3	3
Hemorrhage—					
Primary	3/5	1/3	0	0	0
Secondary	0	0	1	1/3	2
Abscess and Fistula.....	1	0	3	0	2/3
Contracted Anal Canal...	9	0	65	0	3
Control of Sphincters,					
days	10	6	14	2	5
Development of skin tags.	40	50	70	2	8

Opinion is divided as to the best operation for internal hemorrhoids. English surgeons favor the ligature operation, while the clamp and canter operation is most popular in America. It is with some hesitation

that we direct attention to the figures in favor of the electrolytic and injection methods of treatment, knowing the scant courtesy accorded any expedient less formidable than has been used in the past by general surgeons.

In a paper upon the subject of electrolysis (*New York Medical Journal*, 1913), our reasons for preferring this method in the treatment of varicose internal hemorrhoids is fully set forth. This favorable opinion is not without substantial endorsement. After considerable experience with electrolysis in rectal diseases, J. Curtis Webb, L. R. C. P., states in the *Proceedings* of the Royal Society of Medicine, electrotherapeutical department, "I find electrolysis so simple, satisfactory, and I think scientific that so far I have seen no indication for giving it up."

In order to collect accurate data and to satisfy ourselves as to the correctness of our position, it has been our practice to request patients to report within one year from date of treatment, whether fully relieved or not. The infrequency of unsatisfactory reports is reassuring and from all the evidence obtainable, we must conclude no treatment is freer from the tendency to recurrences, disagreeable or dangerous sequelae. Positive statements in regard to cures cannot be made, however, as it is a most common incident in clinical experience to see patients, who have been operated at one or more different institutions from which they were discharged apparently cured, seeking relief elsewhere, instead of reporting their disappointment where originally treated.

Fistulas and Abscesses (389).

Fistulas and abscesses are naturally considered together, as the former is but an advanced stage of the latter. About one in six of our cases was a fistula or an abscess. Excision, incision, the cautery, the ligature, bismuth paste injections, and silver nitrate injections were used in the treatment of these cases. Fistulas of the subtegumentary type were easily treated under local anesthesia.

In all varieties of fistulas recently treated, a previous radiograph was made and the preliminary bismuth paste injection was found to be of technical advantage in bringing to light obscure branched sinuses. Sixteen, who gave a history of previous operations and who refused further surgical treatment, were operated by the ligature method with very good results. Therapeutically, the injection of bismuth paste was a disappointment as we were able to report only seven cases, which progressed satisfactorily, and only two under silver nitrate injections reported themselves cured. We believe the two latter measures are unworthy of confidence in the treatment of fistulas.

In a series of one hundred and thirty-six fistulas, it was found that nine were tuberculous, three of which showed pulmonary lesions. About twenty-five per cent. of our fistula cases gave a previous history indicating abscess. Eleven had been previously operated for hemorrhoids and eighteen for fistula. In this connection we recall the statement of the late Dr. Tuttle that out of 2,916 hospital cases collected, less than forty-five per cent. were even claimed to have been cured. Disheartening as these figures may seem, it is reasonable to assume that many of the failures were due to faulty after-care, hurried convalescence, or negligence on the part of the patient, instead of a lack of surgical skill.

Fissure In Ano. (247)

This painful rectal disorder is frequently associated with hemorrhoids and too often diagnosed as such.

Our tabulation includes 116 males and 131 females. It was noted that 56 of these cases had internal hemorrhoids; 48, the sentinel pile of Brodie; 21 were afflicted with external hemorrhoids, and 5 with polypi at the upper margin of the fissure. Constipation was a frequent and distressing symptom reported by a majority of our cases. We formerly refused to treat under local anesthesia chronic cases or those presenting the so-called sentinel pile believing that divulsion under these conditions was merely punishing the patient. More recently, however, incision under local anesthesia has been followed with salutary results.

Of the 26 cases refusing anything but palliative treatment, no positive statement can be made as to their benefits. It is our belief that a majority of the cases reporting a cure immediately after treatment by divulsion under local anesthesia, without incision, gradually lapse back into their former condition or enjoy only partial relief.

Pruritus (160)

Without any very good reason it is customary to classify pruritus as a disease instead of a symptom. While pruritus may be a symptom of any rectal disease, it is not so commonly associated with the more serious rectal disturbances; but is usually linked with some trivial lesion, such as external hemorrhoids, hypertrophied papillae, inflamed crypts, indurated or macerated folds of skin, or the condition may exist without any apparent cause. We have classified 6 per cent. of our cases as pruritus and fully twice that number have complained of itching as one of the many other symptoms. We have included here only cases in which pruritus constituted the principal complaint, eliminating or classifying under other heads those cases in which pruritus played a minor part. Where a painstaking search failed to reveal a remote cause for pruritus, or where removal of all apparent causes failed to give relief, we have occasionally used autogenous vaccines according to the suggestions of Murray, with very satisfactory results.

Colitis and Ulceration (116)

Under this heading it is convenient to include various types of ulceration of the rectum and colon as hemorrhoidal, uremic, tuberculous, syphilitic, amoebic, gonorrheal and strictural. Since we are aware that the rectum and colon constitute a perfect incubator, we are confronted with a complex problem, when we attempt to determine the specific organism responsible in a process in which many may be concerned. We are not prepared to say in a tuberculous subject that the bacillus pyocyaneus or streptococcus fecalis and pyogenes may not have been causal factors.

In private practice we see fewer cases of amoebic dysentery than ten or fifteen years ago. We have recognized two such cases recently, both travellers from South America.

A preponderance of our cases of ulceration was hemorrhoidal and treated by removal of the hemorrhoids. Syphilitic and tuberculous ulcerations we have mentioned under specific grouping.

Hypertrophied Papillae (55)

Papillitis was frequently observed associated with pruritus, hemorrhoids, and occasionally proctitis. Whether small or large, we never ignore these common causes of discomfort. In many cases it is the sole cause of pruritus. Except when large, we have treated as connected tissue hemorrhoids. If large, we prefer to ligate.

Prolapsus Ani, or Procidentia (50)

With the exception of four children and three adults, the cases included under this division were those of prolapsus. Perhaps the reasons so few cases of procidentia were met with was due to the fact that such cases occur mostly among children and are taken to the various hospitals and dispensaries having children's departments. A number of our adult cases gave a history of suffering with protruding hemorrhoids for a number of years, the condition eventually developing into complete prolapsus.

Proctitis (38)

Under this grouping we have recorded 38 cases, 27 cases in males and 11 in females. Of these, 3 were under 9 years of age. We see no reason for including under this division, as some clinicians do, a large percentage of the cases of pruritus, colitis, ulceration, and numerous other conditions presenting obscure symptoms; but prefer to confine the term to such rectal inflammations as appear to be without other conspicuous contributing causes.

Syphilis (29)

The surprisingly small number of cases of syphilis reported is in part due to the fact that our figures cover a period of twenty years and therefore many cases were diagnosed and treated before the discovery of the Wassermann test and probably at an early period not a few doubtful cases slipped over into other classifications. Many of our cases were associated with small fissures, ulcers and condylomata, or in the advanced cases, stricture of a considerable portion of the rectum and sigmoid. We believe it is the part of wisdom to look for syphilis and employ the Wassermann test in all suspicious cases without regard to history.

Benign Growths (25)

The most common form of benign growths observed in our practice has been polypi of the glandular type or adenomata. These varied greatly in size and were usually single, except in patients advanced in years. We recall removing an adenomata 8x4½ centimeters in size from a man 73 years of age by means of a ligature. The patient was unable to retain the mass in the rectum and had suffered greatly, but had again and again refused surgical interference. A ligature was successfully used and the patient regained normal function of the rectum and sphincter in three weeks. The success of this procedure was substantiated by an examination five years later. We do not urge the adoption of the treatment; but cite it as a successful expedient happily employed.

Cancer (24)

The increasing prevalence of cancer makes this a subject for serious consideration. Seventy-five per cent. of our cases had reached the inoperable stage when examined. Of the cases operated three were lost track of, two suffered recurrences, and one was apparently in good health three years after operation. Sixty-six per cent. of our cases were males.

Lynch aptly states that all tumors are potential cancers. We believe all foci of irritation about the rectum may be considered in the same category. If the dictum of the late Dr. Murphy is true that "the time to treat cancer is in the precancerous stage," we shall be able to increase our percentage of cures only when patients cease to neglect the beginnings of serious trouble.

Stricture (22)

Perhaps unfairly stricture has been largely credited to the mistakes of surgery. In our experience the Whitehead operation has been responsible for many

cases of anal stricture. We have observed stricture following the clamp and cautery, but none appeared among our patients. The majority of our cases were inflammatory in origin.

Considering the remaining classifications collectively, there were 28 cases of incontinence; 20 cases of cryptitis; 11 cases of patulosis ani; 8 of gonorrhea, and 7 of eczema. Incontinence, admitted to be one of the sad pages in rectal surgery, as it often follows improper surgical treatment of the internal sphincter, constituted only ½ per cent. of the cases treated by us, but was observed only in 39 cases previously operated for fistula.

Summary.

Abundant evidence seems to prove that from a diagnostic viewpoint, rectal diseases in general practice are wretchedly managed, because the patient's best guess is so frequently made the basis of treatment. About 90 per cent. of our patients had previously received advice or treatment, while less than 20 per cent. had actually been examined.

Efficiency requires that every patient exhibiting symptoms of rectal pain, discomfort, protrusion, hemorrhage, obstinate constipation, or diarrhea should receive a thorough rectal examination.

A hospital regimen is often imperative and greatly minimizes the labors of the proctologist. Less than 12 per cent. of our patients were considered necessarily hospital cases.

Age is no barrier to the successful employment of electrolysis in rectal practice.

The disadvantages ascribed to ambulant methods of treatment are often imaginary or grossly exaggerated. We have no record or knowledge of a fatality in our long list of office cases.

Rectal patients rarely enjoy spontaneous cures. One attack apparently paves the way for another.

Diagnosis and Treatment

Acidosis With Diarrhea.

Howland and Marriott outline the following treatment for this condition:

"It is necessary to consider here only the treatment of the acidosis that complicates the diarrhea. So long as the ultimate cause of the acidosis remains obscure, we cannot employ direct measures to prevent its development. The excessive diarrhea should be prevented, if possible, by moderate doses of opium, for in any event the draining of the body of water cannot be an indifferent matter. Opium in some form, such as paregoric, may be given, preferably in small doses, frequently repeated, to be reduced or stopped when the evacuations diminish in frequency or copiousness. Water must be given freely by mouth, if possible; if vomiting prevents this, as it frequently does, it must be given by rectum, subcutaneously or intravenously.

"If the acidosis is due to the retention of acid phosphates, the excretion of these substances and the consequent prevention of acidosis would be greatly facilitated by a copious secretion of urine. When acidosis develops, the secretion of urine is very scanty and often ceases for hours at a time. Under such circumstances it is most difficult to increase the activity of the kidneys. All measures should be used to prevent the cessation of the activity. The best of these is the constant administration of water or salt solution in one of the ways mentioned above.

"When the presence of the acidosis is determined by the hyperpnea or by some laboratory test, energetic treatment is required. Alkalies must be administered promptly, until the reaction of the blood is again normal. We have used sodium bicarbonate for this purpose. This may be given by mouth, by rectum, subcutaneously, or intravenously. Vomiting often prevents the administration by mouth, and absorption by the bowel is unreliable in the presence of diarrhea. The soda may then be given subcutaneously or intravenously. When a sufficiently large vein can be found, intravenous administration is the method of choice, even if there is vomiting. Immediate

action can thus be obtained. The strength of the solution for intravenous use is 4 per cent. Depending on the size of the infant, from 75 to 150 cc. should be given and repeated in three hours if the hyperpnea does not cease. A large amount of alkali is required, for not only is the alkalinity of the blood reduced, but also that of all the tissues of the body. After one or two intravenous injections, the soda should be continued by mouth in doses of 1 to 3 gm. every two or three hours until the urine is alkaline to litmus. Should it be impossible to give the soda intravenously, the solution may be injected subcutaneously. There is always danger under such circumstances that necrosis of the tissues will result. The danger is minimized if certain precautions are taken. The solution (either 2 or 4 per cent.) is sterilized by heat. By this procedure, however, a large part of the bicarbonate is transformed into the carbonate. As the carbonate is intensely irritating to the tissues, it must be transformed back into the bicarbonate. This may be done by bubbling carbon dioxide through the cold solution to which a few drops of phenolphthalein have been added until it becomes colorless. From 100 to 300 cc. may be employed at an injection and should be given very slowly.

"The administration of soda by one or the other method will often overcome both the clinical and laboratory evidence of acidosis. We have frequently seen the hyperpnea disappear, and all the tests show the reactions to be found in the normal infant. Nevertheless, the child may die—indeed, such is usually the case. The cause of death under such circumstances is not clear. In all cases of severe diarrhea, even though there are no evidences of acidosis, it is advisable to use sodium bicarbonate until the urine is alkaline. Its administration may prevent the development of acidosis."—(*Am. Jour. Dis. Child.*, May, 1916.)

Two Varieties of Palpatory Percussion.

Edward E. Cornwall of Brooklyn describes two varieties of palpatory percussion which he calls "Feel" percussion and "Punch" percussion, respectively.

Feel percussion is performed as follows: With the tip of the finger of the right hand, the finger being bent as if for playing the piano and held loosely at the metacarpo-phalangeal articulation, and with motion mostly at the wrist, a series of very light touches or taps are made rapidly along a line on the surface of the body. Between these touches or taps the finger is raised very slightly from the skin, just enough to separate the touches or taps from each other; and no sound is made by the impact of the finger tip on the skin. The operation looks like feeling for something; and that is what it is. What is felt for is a sensation of difference in density, which informs the examiner of the presence of solid masses. This feel percussion is of particular value in mapping out the cardiac area, the hepatic area, the lower border of the stomach (where the wall of the viscus dipping in presents a narrow area of increased density to the examining finger which is "feel-percussing" over the surface of the abdomen), the inner border of the cecum and ascending colon, the lower border of the transverse colon, and the splenic area.

In *Punch percussion* advantage is taken of the fact that the pressure sense responds to a sudden impact more readily than to a slowly applied pressure of the same degree of tension (as in ballotement). It is performed by the middle finger of the right hand partly flexed at the metacarpo-phalangeal articulation and held rigidly straight, which is thrust vertically and with considerable force into the region to be examined. This method of palpatory percussion is particularly useful in examination of the abdomen for deep-seated masses. The suddenly punched-in stiff finger can sometimes appreciate the presence of a deep-seated neoplasm or a displaced kidney which might escape being sensed by the slower pressure of ordinary palpation.—(*Arch. Diagnosis*, Vol. ix, No. 1.)

The Tongue in Diseases of the Stomach.

Douglas Vander Hoof of Richmond, Va., describes the causes of coated tongue. He says one very common cause is nasal obstruction. This occurs in an aggravated form in the individual who sleeps with his mouth open and awakens with a heavily coated tongue. In this way we can account for the coated tongue seen in almost every individual who smokes regularly.

In fevers there is more or less congestion of the mucous membranes of the nasal passages, and the furred tongue is in part an expression of this obstruction to the normal breathing. In recent years the routine application of the "mouth toilet," by which the mouth and tongue are cleaned with a suitable mouth wash after every feeding, has done away with the coated appearance of the tongue, described by older medical writers as characteristic of one fever or another. One "variety" of

coated tongue arises in cases associated with an accompanying superficial glossitis—the so-called "strawberry tongue"—seen most frequently in the early stage of scarlet fever, but not pathognomonic of this disease. This appearance of the tongue is due to the presence of a whitish fur through which project the greatly swollen and bright-red fungiform papillae. The same condition of the tongue, minus the fur, gives rise to an appearance called the "raspberry tongue."

Another frequent cause of coated tongue is absence of friction. Patients whose diet is confined to liquids generally have a coated tongue, which often disappears when solid food is begun. Insufficient mastication also plays an important role in causing the furred tongue of persons who eat too hurriedly or bolt their food.

A third, and perhaps most common, cause of coated tongue is to be found in a perversion of the salivary secretion. It has been shown that the flow of saliva is normally a definite reflex with a secretion center in the medulla oblongata, and as such this center may be affected by stimuli from various sources. Physiologists have demonstrated that this secretion center, and through it the salivary glands, may be called into activity by stimulation of the sensory fibers of the sciatic, splanchnic, and particularly the vagus nerves. So, too, various psychical acts, such as the thought of savory food and the feeling of nausea preceding vomiting, may be accompanied by a flow of saliva. Finally the medullary center may be inhibited as well as stimulated. The well-known effect of fear, embarrassment, or anxiety, in producing a parched throat may be supposed to arise in this way by the inhibitory action of nerve impulses arising in the cerebral centers. Thus it happens that most sick individuals have a coated tongue.

In the diagnosis of diseases of the stomach, practically no significance can be attached to the appearance of the tongue. Many years ago Boas emphasized the fact that a coated tongue may be seen in patients who enjoy a splendid appetite and an excellent digestion, and that, on the other hand, patients are found who suffer for weeks or months from anorexia and digestive disturbances, but whose tongues are perfectly clean. In spite of the increasing appreciation of the very subordinate position of the tongue in diagnosis of gastrointestinal disturbances, most writers continue to state that the tongue is apt to be clean and red in gastric hyperacidity, and coated or foul in subacidity cases.

As a matter of interest, the writer has reviewed the histories of 1,500 consecutive patients on whom gastric analyses have been made. The results are shown in the following table:

Condition of the Tongue	Anacidity		Subacidity		Normacidity		Hyperacidity	
	Cases	Per Cent	Cases	Per Cent	Cases	Per Cent	Cases	Per Cent
Not mentioned.....	49	.....	55	.....	102	.....	50	.....
Mentioned.....	137	.....	262	.....	548	.....	297	.....
Clean.....	48	35.0	94	35.9	192	35.0	81	27.3
Coated.....	89	65.0	168	64.1	356	65.0	216	72.7

The interesting fact is thus made clear that the same proportion of coated tongues, approximately 65 per cent., was found in patients having either normal gastric acidity, subacidity or anacidity, while cases of gastric hyperacidity showed a slightly higher relative number of coated tongues, namely 72 per cent. Investigations by Mueller and Fuchs (1898 and 1900) showed that 62 per cent. of apparently healthy people had coated tongues. In the writer's series the slightly higher percentage of coated tongues in hyperacidity cases probably has no significance. It is believed that a larger series of cases will show about the same proportion of coated tongues in both hypoacidity and hyperacidity, demonstrating again that the tongue is in no sense the mirror of the stomach.—(*Arch. Diagnosis*, April, 1916.)

Tubercular Infection in Infancy.

V. Adriance of Williamstown, Mass., reaches these conclusions in a discussion of this subject:

A positive von Pirquet reaction is a proof of tubercular infection.

A von Pirquet reaction during the first two years of life signifies a bad prognosis, but the mortality decreases as the years advance.

Infection with small doses of the germs at infrequent intervals may gradually establish immunity.

Infection with the bovine type of tuberculosis occurs mostly in infancy and childhood, while the human type is chiefly manifested in adult life.

The bovine type manifests itself chiefly in disease of the bones and lymph glands of the neck and mesentery.

There is a possibility that the milk of immunized cows may be useful in the prevention and treatment of tuberculosis in the human.

Pasteurization of milk should be generally adopted.—(*Bost. Med. & Surg. Jour.*, August 17, 1916.)

A Celluloid Dressing.

British army surgeons favor a new method of dressing large and painful wounds, whereby a thin layer of perforated celluloid is substituted for lint as the first covering for the raw wound. The plan was tried successfully first by Sir Almroth E. Wright, at St. Mary's Hospital, London, and now promises to become generally adopted.

The celluloid, first rendered soft and pliable by being soaked in a 20 per cent. solution of carbolic acid and then washed in a weak salt solution, is laid on the raw wound, the perforations being so numerous that it seems mostly holes. Fine lint soaked in a 5 per cent. solution of common salt in sterile water is then placed over the celluloid, after which firm bandages are applied. Owing to the celluloid, much firmer pressure can be used than with ordinary dressings.

One surgeon, explaining the advantages of the celluloid dressing further, said: "In many cases the healing of a large wound is actually retarded by the general bodily depression resulting from the pain caused in the dressing of it. Again, gauze bandages, when laid directly on the raw wound, must inevitably, in the process of removal, tear away from their site certain of the new cells. Every cell thus destroyed has to be re-made, and so healing is delayed."

Can Human Tissue Live Forever?

Human tissue would live forever if properly attended, is the opinion of Dr. Robert A. Lambert, of the Presbyterian Hospital in New York. Whether or not his experiments are likely to have any value in the direction of conserving human life is problematical.

He reports the results of his experiments in an article on "Technique of Cultivating Human Tissues in Vitro" (*Journal of Experimental Medicine*). He refers to the earlier experiments in tissue cultivation which were not as successful as could be desired, owing to the difficulty in hitting upon the right culture medium. In nearly every case the fibrin in the blood plasma which was used as a medium would liquefy.

Drs. J. R. Losee and A. H. Ebeling added Ringer's solution, and also, taking a hint from Dr. Carrel, added some tissue extracts to the plasma. This mixture delayed the digestion of the fibrin in the plasma, and, by making transfers of human tissue to fresh plasma every day or two, they were able in one case to propagate it as long as sixty days. They emphasized the shortcomings of their technique, however, and stated that they experienced many failures, which they attributed to the early liquefaction of the culture medium. It is this drawback that Dr. Lambert has overcome. Here is part of his report:

"It may be noted that it is not the ability of human tissue to digest fibrin, but rather the susceptibility of human fibrin to digestion which is the basis of the trouble, for we found that human tissue did not liquefy the fibrin of foreign plasmas, while it was observed that human fibrin was readily digested by the ferments of practically every foreign tissue.

"It was noted that fowl and pigeon plasma were never liquefied except in the presence of particular types of bacteria. Since earlier experiments had shown that tissues from certain of the lower animals could be cultivated in plasma from foreign species, it occurred to us that this property of fowl and pigeon plasma to resist digestion might be utilized in growing human tissues.

"It seemed possible that chick fibrin might be made to serve as the framework of the culture medium with human serum or plasma added to supply the necessary nutritive substances. A medium was therefore prepared by mixing a small quantity of chick plasma with a considerably larger quantity of human serum. Various human tissues (lymph gland, spleen, skin, etc.) obtained at operation were put up in this mixed medium. No liquefaction was observed, and active progressive growth was seen in the majority of the preparations where soft friable tissue was used.

These are two of Dr. Lambert's conclusions:

"1. Unmodified human plasma is not a satisfactory culture medium for human tissues owing to the susceptibility of human fibrin to digestion by tissue ferments. The necessary framework is thus destroyed before the cells begin to migrate. The difficulty can be overcome by adding to human plasma or serum a small quantity of fowl or pigeon plasma, the fibrin of which is highly resistant to digestion. Human tissues have been propagated in this medium for several months through sub-cultures, and growth in vitro can probably be maintained indefinitely.

"2. Human tissues show no greater sensitiveness to changes in temperature and mechanical injury associated with preparation of cultures than those of lower animals. They may be preserved in an ordinary icebox at 10 to 15 degrees centigrade

as long as six or eight days. Tissues obtained at operation give best results, but pieces of organs removed at autopsy one to four hours after death sometimes show active growth."

The Thymus and Its Tumors.

J. Ewing observes that general pathological conditions affecting the thymus include aberrancy of thymus tissue in thyroid; simple hyperplasia in status lymphaticus, Graves' disease, and simple lymphadenoma; exfoliation of reticulum cells in leukemia and infections; cysts; and neoplasms. Cysts arise from persistent embryonal epithelial canals, from branchial and ventral ectoderm, from distended softened Hassall's corpuscles, and from lymphangiomas.

Neoplasms include round-cell growths, commonly classed as lymphosarcoma, and tumors composed of flat or cylindrical epithelium.

The so-called round-cell tumors, properly called thymomata, are derived from the epithelial stroma cells, and may be distinguished from true lymphocytomata of lymph-nodes. The cells are not round lymphocytes, but polyhedral, or cylindrical, or giant derivatives of the stroma cells. The same variations in structure are observed as in Hodgkin's granuloma and reticulum-cell sarcoma of lymph-nodes. The clinical course of these tumors also varies from the character of a progressive granuloma to that of a highly malignant locally aggressive neoplasm which may produce widespread extensions and metastases. A notable feature is perforation of the chest wall. Thymic carcinoma includes those tumors composed of pavement, cubical, or cylindrical epithelium, but there is no sharp dividing line between the two groups, and both arise from the reticulum cells. The parallel existing between thymic granuloma and thymoma on the one hand, and lymphatic Hodgkin's disease and reticulum-cell sarcoma on the other, suggests that in both organs an infectious agent initiates an infectious process which often runs into a neoplasm.

The reported cases include a rapidly progressive febrile case with very extensive invasion of the neck, chest, and axillae by a tumor of diffuse structure; a perforating sternal tumor of two years' progress, structurally resembling Hodgkin's granuloma, regressing under x-ray; and a slowly progressive thymoma of granulomatous type, limited to the mediastinum, and showing polyhedral reticulum cells and Hassall's corpuscles.—(*Surg., Gyn. and Ob.*, p. 461, 1916.)

The Removal of Superfluous Hair by Electrolysis.

Bathurst states that the strength of current applied should be from .75-1.5 or 2 milliamperes, 1 milliampere being generally quite sufficient. If a controller be used, it may be set by experiment for each individual case, and will remain nearly constant, requiring only slight adjustment as resistance is overcome, throughout the sitting.

Of the greatest importance is a good light, and if daylight is not good a head-lamp, which may also be worked from the controller, combined with Zeiss's binocular magnifiers, gives great assistance. The writer has derived no help from ordinary lenses held in the hand.

The patient is placed on a couch with the head well back, the operator standing at the head of the couch with the apparatus on his left, if he uses the right hand for the needle-holder, so that he may be able to regulate the current if necessary with the left hand.

The needle is usually connected with the negative pole, and the indifferent electrode to the positive. The result of this is that hydrogen is liberated wherever the needle is in contact with the tissues, together with the alkalis, sodium and potassium, which effect the destruction of the papilla. The success of the operation on each individual hair depends upon the insertion of the needle into the hair follicle, so that the point may reach and destroy the papilla. This may be effected with a current of 1 milliampere in 5 to 20 seconds, and one may fairly assume success when after such treatment the hair is found to come easily out of the follicle, as if it had merely been lying in it with no attachment.

A difficulty which is sure to be encountered at first, and which may be met with at any time, is that connected with the insertion of the needle. Fair hair of a fine silky quality on a fair skin presents difficulties of vision, which a good light and suitable lenses may do much to overcome.—(*The Practitioner*, November, 1915.)

Cancer of the Stomach.

Is cancer of the stomach on the increase? The Registrar-General's returns show that in 1897 the deaths from cancer of the stomach were: Males, 135 per 1,000,000; females, 123 per 1,000,000. In 1910 the figures were: Males, 185 per 1,000,000; females, 155 per 1,000,000. This represents an enormous in-

crease, but it is a question how far it is real, how far only statistical. The problem of the increase of cancer, like that of the increase of insanity, is very complicated. How far more accurate diagnosis accounts for the increase in the cancer figures, how far the diminished mortality from tuberculosis, and the higher average of longevity react upon the incidence of cancer are questions of great interest.—(*Lancet*, July 1, 1916.)

Painless, Rational, and Economic Treatment of Wounds.

Soresi claims many advantages (*Gior. d. r. Accad. di med. di Torino*, 1915, 404) in the use of paraffin in the surgical treatment of wounds, both in its elimination of a great deal of the unnecessary pain caused by gauze dressings and drains, and also on account of its inert, sterile, and other qualities which prevent it from being in any way irritating to the tissues.

His method consists in the application of a paraffinized surface over the injured area and the covering of the drain tube with paraffin. The paraffin, which is placed in a shallow dish, is kept liquid by having the dish inserted in another containing warm water. A piece of gauze about the size of the surface to be covered is dipped in the paraffin. While the paraffin on the gauze is still tepid the gauze is placed over the wound and trimmed to size.

Drains are prepared of pieces of rolled gauze dipped in the paraffin; or, when the exudate is very abundant, a metal tube of very fine mesh is dipped in the paraffin, which must not be very warm, and when the paraffin becomes solid the tube is ready for use.

The advantage of this method is that the dressings or tubes are non-adherent and give rise to no pain, irritation, or hemorrhage.—(*S. G. and O.*, Sept., 1916.)

Loose Bodies in the Knee-Joint.

M. S. Henderson says that in the operation for the removal of loose bodies the incision may be laterally on either side or the patella may be split. The condylar incision is better for the removal of the meniscus. He concludes:

1. Fibrinous loose bodies are due to some diseased condition of the joint, and do not cause mechanical derangements.
2. Organized connective-tissue loose bodies produce mechanical derangements.
3. Loose bodies may have as their primary cause some condition such as osteo-arthritis or Charcot's disease, but the secondary cause is direct or indirect trauma.
4. Osteochondritis dissecans is a group more or less distinct from the rest. The bodies seem to be produced by very slight indirect trauma.
5. Trauma, direct or indirect, is essential to the production of a loose body.
6. Surgery offers the only permanent relief, and, the general condition of the patient being satisfactory, the bodies should be removed.—(*Am. Jour. Orth. Surg.*, p. 265, 1916.)

Correspondence

A Reply to Dr. S. J. Meltzer Concerning the Treatment of Poliomyelitis.

Dr. Meltzer, of the Rockefeller Institute (*New York Med. Jour.*, Sept. 2, 1916), reviewed at length my autotherapeutic method of treating poliomyelitis—the subcutaneous injection of the patient's own spinal fluid—that appeared in the issue of that journal of August 19, 1916. His communication was immediately preceded by a brief letter from him profoundly apologizing to the Department of Health for misstatements he had made in a previous issue of the *Journal*. In this communication the Department was seriously taken to task for the following statement that appeared in the *Weekly Bulletin*, Aug. 12th: "This method (the subcutaneous injection of spinal fluid into the patient from whom it was taken) is based on the assumption that the spinal fluid withdrawn contains the virus of the disease, and that the virus injected subcutaneously or intramuscularly will stimulate the production of antibodies which will aid in overcoming the infection. In other words, the method is one of active immunization. This method is based on sound scientific principles."

Dr. Meltzer began his communication with a statement of what already is well known, namely: "It is dangerous to inject the living virus under the skin." Without definite knowledge of the etiology, he added interesting theories, assumptions, etc., and concluded by illogically stating facts (?) based upon these suppositions.

Permit me to call Dr. Meltzer's attention to a few facts de-

termined by many tests upon human subjects, that he apparently does not recognize; but he states that Dr. Flexner would be interested in them. Of course, Dr. Flexner, as is every physician interested in facts, is interested in them.

According to Laidlaw, in cerebrospinal meningitis there are few if any microorganisms present in the spinal fluid in the early stages, and, what is to the point, subcutaneous injection of the unmodified spinal fluid into the patient from whom it was taken acts therapeutically in early cases at once and the results tend to be permanent.

I would like to ask how Dr. Meltzer knows that poliomyelitis differs in this respect from cerebrospinal meningitis. After the infection has progressed for a few days the writer recommends that the spinal fluid be filtered in the usual autotherapeutic manner before injection under the skin. Since clinical experience upon human beings—not monkeys—clearly proves that cerebrospinal meningitis in the early stages usually is readily cured by this method, is it not rational—yes, logical—to assume that poliomyelitis might be cured in a similar manner—especially when parents freely consent to the treatment and no other means at our command is found efficacious?

Theories, assumptions, etc., are well enough in their place, but they have gone and ever will go down before facts. Before dismissing this phase of the subject, it is well to state that it is well known that the tissues can take care of a few pathogenic microorganisms.

In view of the fact that Dr. Meltzer presents no published records of personal experience in treating patients by this method and has but little accurate knowledge of the etiology of poliomyelitis, and in view also of the fact that Dr. Ager, who, probably, has seen more cases of poliomyelitis than any other man in New York, has had good results, and the fact that this treatment is held in sufficient regard by the Department of Health as to give it a fair trial and states that it is based on "sound scientific principles," and the fact that Dr. Ager emphatically states that he has seen no indications that any harm was done, and the Department of Health, which has employed this treatment, has published no accounts of any ill effects, I ask: is not Dr. Meltzer a little hasty in stating: "The treatment is absolutely contraindicated and ought to be prohibited by those in authority."

His apology to the Department of Health indicates that Dr. Meltzer has made grave mistakes. Apparently, he made another error when he states in the article referred to: "I am very much pleased to state that since I wrote these lines (*N. Y. Med. Jour.*, Aug. 19, 1916) I have received authoritative information that this treatment is prohibited." Dr. Emerson states in conversation: "The Department has made no such ruling." Is it not possible that Dr. Meltzer might have made still another error here? Dr. Ager was the first, as he stated, to treat poliomyelitis by this autotherapeutic method. It was only, however, because he had the opportunity of so doing at the Kingston Avenue Hospital; but he was not the first to treat patients by this method, for it was employed in cerebrospinal meningitis in 1910, and has been so employed by a number of physicians ever since. Dr. Ager's claim to have been the first to treat poliomyelitis by injection of spinal fluid subcutaneously reminds one of the boy who broke open an apple and announced that he had just seen something never before seen by mortal man—the seeds. The boy was right, and so was Dr. Ager in the same sense.

The writer desires to thank the Department of Health for the impartial manner in which its tests have been conducted as far as the use of my method of treating patients suffering with poliomyelitis is concerned.

CHARLES H. DUNCAN, M. D.

Dr. Meltzer's Reply.

To the Editor of the MEDICAL TIMES:

I do not feel that I have anything of value to say to the communication of Dr. Charles H. Duncan. My reference to his article in the *New York Medical Journal*, dealt with Dr. Laidlaw's claim to his successful treatment of meningitis by the autotherapeutic method. Cerebrospinal meningitis can be established by serum diagnosis only by the presence of the meningococcus intracellularus; the spinal fluid under these circumstances is, of course, not sterile. Dr. Laidlaw is quoted as having said that he cured meningitis by the autotherapeutic method only when the serum was sterile, but he did not succeed if the serum was not sterile any more, which, on the face of it this statement is incongruent. As to the claim of Dr. Duncan to the priority of the treatment of poliomyelitis by autoserum, I have the less to say, since Dr. Ager in a communication in the *New York Medical Journal* repudiated its efficiency.

At any rate I am ready to admit any accusation that I already have written and said too much on that subject.

S. J. MELTZER, M. D.

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Medical Misocainia or Neophobia.

The essential motives of misocainia are prejudice, selfishness and indolence, the arch-enemies of all progress, and there are cases on record in the history of medicine in which misocainia had developed to such a degree that men of science, of exalted position, lost the sense of truth and honor and degraded themselves by the employment of unworthy means in order to suppress a new idea and descended to intrigue against those who had promulgated a new truth.—*Contemporary Comment: New York Medical Journal*, September 9, 1916.

An Intelligence Test in Brooklyn.

That one of the candidates for a Supreme Court Justiceship in the Second Judicial District, to be voted upon at the approaching election, happens to be a physician, is something the significance of which may not be wholly apparent either to the profession or to the public.

A medical man takes with him when he enters great fields of human service other than medicine much of what he assimilated, as a practising physician, of our traditions and principles. This is a splendid heritage. If to other qualifications for the exalted office of Justice a man adds the peculiar knowledge of men and of science that medical practice develops, it would seem that the political powers that be are doing their very best for the people when they conscript a candidate so equipped, for it is obvious that a man medically trained is pre-eminently qualified to adjudicate cases having a medical phase, and we are all aware how large a proportion of the mass of litigation such cases constitute. Surely the people would profit through the

special insight that a medically informed jurist would take to the bench.

For ourselves, we should say that it is most desirable that the profession be represented more largely in high civic office of every grade. Our interests would be safer in every way were this the case. All possible checks should be placed upon the nuisances who appear bent upon placing mines under the very temple of our art. Such representation as we advocate would add to government the intelligence which is all that is needed to wreck the wreckers themselves.

We hope that both the profession and the public in the district concerned will take advantage of the opportunity now offered to suspend partisan considerations, where such exist, to the ends for which we plead.

The Blackest Heritage of the War.

In favor of war much has been said, and said truly. The spiritual awakening of a people steeped in peaceful degeneracy is a rare but unquestionably healthful event; the weaklings amongst non-combatants are gotten rid of through the operation of natural selection; many victims of selfish and ambitious "statesmen" representing competing interests in predatory or venal governments die gloriously upon the battlefield instead of in the poorhouse; and there is a marked reduction in the number of admissions to hospitals for the insane, particularly as regards women of the sheltered classes, because of broadening changes in their mode of life and thought. Among other good counts are a marked reduction in alcoholism in all the belligerent countries and physical improvement of the men engaged because of outdoor life and simple food.

But behind all the apparent good that we can squeeze out of the international grave-digging contest now going on in Europe is a horrible spectre which nullifies all else.

The name of this spectre is venereal disease.

Venereal diseases are bound to flourish in the course of any war; they are particularly rampant at present in Europe, because the war now going on is the greatest in history. The statistics of the French, German and Austro-Hungarian armies show that the number of troops both in the home zone and on the front are acquiring venereal diseases with results that greatly exceed the records of any previous wars. Syphilis is most frequently manifest among the soldiers, of whom one-third are married men.

During the examination of a white slaver in New York recently Assistant District Attorney Smith asked the witness how many schoolgirls he had obtained in the last year of his operations. "We got between fifty and one hundred," answered the white slaver. "There has been a great demand for 'new' girls recently, so many women have been sent to the Mexican border."

The Australian troops that were sent to Egypt to take the place of the British forces withdrawn for service in Europe soon became badly diseased and were sent back to Australia, with the result that they there spread among their own families an amount of venereal disease that assumed almost the proportions of an epidemic.

So we say that the blackest heritage of the war will be an appalling amount of venereal infection. The amount of mental, moral and physical decadence that will result from this will more than nullify alleged beneficent effects. It will be the final and conclusive indictment, to the minds of the rational thinkers still left in our insane social maelstrom, of the horrid thing called war.

There is no balm in the banners of victory that will heal the blinded eyes of the syphilitic child. And for those destroyed organs in the sacred body of youth there is no compensation in the military triumph of brutalized States.

The Cole Decision.

The Christian Scientists have succeeded in getting a new trial for Cole, convicted four years ago of the illegal practice of medicine. The Court of Appeals has decided that the lower tribunal charged the jury erroneously when it declared that "If you find from the evidence in this case that this defendant did engage in the practice of medicine as alleged in the indictment, within the definition which I have given to you, it is no defense that he did what he did from any sense of duty or that he did these acts in the practice of religious tenets of the Christian Science Church," for, says the Court of Appeals, "Practising is not a crime at common law. Practising medicine is not *malum in se*. . . . A person should not be allowed to assume practise the tenets of the Christian Science or any church as a shield to cover a business undertaking. When a person claims to be practising the religious tenets of any church, particularly where compensation is taken therefor, and the practice is apart from the church edifice or the sanctity of the home of the applicant, the question whether such person is within the exception should be left to a jury as a question of fact." By the "exception" the Court of Appeals means that part of the medical practice law which exempts from prosecution those engaged in "the practice of the religious tenets of any church."

Justice Bartlett, of the superior court granting the new trial, wrote a memorandum in which he denied the power of the legislature to make it a crime to treat disease by prayer.

We are bound to say that the decision is a just one. It is in strict accordance with the law. We know very well that the law is framed for the protection of powerful religious bodies to which it has been found expedient to grant special privileges. It does not hurt us to grant such privileges to these religious bodies, but we suffer painfully when the Christian Scientist says "me too."

Look Pleasant and Do Not Gag.

Emmet Rixford, in the *Journal of the American Medical Association* for September 30th, has a very good article on industrial accident insurance—good from the capitalistic viewpoint—in which insurance of the working classes against illness is endorsed as something which we must accept "in the proper spirit" and "accommodate" ourselves to, and in which the following paragraph occurs:

"The attitude of organized labor to industrial accident insurance is difficult to understand. In fact, it has not yet taken shape and been finally formulated. I am informed by men close to leaders of labor organizations that organized labor is not altogether pleased with the law of California [Dr. Rixford practises in California]. A fundamental objection is made that the law is in effect paternalistic, and there is nothing which labor leaders take greater exception to than government paternalism."

We wonder whether Dr. Rixford advocates in medical practice the use of palliatives and everlasting expedients when curative measures are available; We wonder whether he believes that the workers should receive a fair share of the profits of industry, so as to be in a better position to choose their physicians like

Dr. Rixford's private clientele; We wonder whether he believes that charity is a good substitute for justice; and we wonder whether he approves of the misleading title of the American Association for Labor Legislation.

The sophistical service of Mammon is developing into the dignity (?) of a new specialty.

The *New York Medical Journal*, in its issue of September 23d, under the caption of Contemporary Comment, made the following apropos remarks anent this form of "welfare" work:

"In this delightfully cool season with the daily temperature seldom running over 95° F. in the shade, we crave treatment by acupuncture or something equally soothing. We get this treatment, fortunately, from time to time, from self-constituted legislative Solons whose panacea for social misery is that every worker shall be compelled, whether or no, to insure his health. 'Compulsory health insurance,' their rapid fire typewritist assures us, 'is the only means for checking the lowered vitality and the poverty created by present day conditions!' He adds persuasively, 'that this system of health insurance for a small sum divided among employer, worker, and State, will bring medical care to the wage earner and his family, will assure for a maximum of twenty-six weeks in a year a weekly payment of two-thirds of wages during the breadwinner's illness and in addition a small funeral benefit should he die.' 'Compulsory health insurance is an economical means of providing adequately for the sick wage earner and will prove a mighty force for the inauguration of a comprehensive campaign for health conservation.'

"We doubt," continues our esteemed contemporary, "whether even in cool weather the American working man will care to be Prussianized by these altruistic friends of the people."

Why is an Anti-Vivisectionist?

The typical anti-vivisectionist is excessive in his or her concern for the well-being of the lower animals, while often indifferent to human suffering. What are the psychological implications?

Such persons, in childhood, are characterized by cruelty directed against the lower animals, but with maturity, ethical training and conscious control comes zealous retribution (?). This "retribution" works itself out in the animal domain, for offenses against human beings were not committed in childhood in like degree, for cruelty is associated with timidity, and animals are more often defenceless. Children can retaliate more effectively. This explains the lack of interest on the part of the anti-vivisectionist in ill or distressed human beings, who do not figure to the same extent as animals in his subconscious mind and in the domain of conscience.

Even though with maturity comes a realignment of conduct, the Sadistic element lurking in the psyche of the anti-vivisectionist is revealed in his preoccupation with what he calls torturings of laboratory animals. How he gloats over the details of Crile's experimental work on shock! His diatribes are a perfect record of the disguised yearnings of the vicious child mind which still forms part of the sub-conscious element in his make up.

And so, vicariously, the anti-vivisectionist satiates his vicious instincts, which are his "natural" ones, with gruesome descriptions of the experimental work done upon the lower animals by normally motivated men. Only in this way can he sublimate his actually criminal instincts and achieve a putative respectability.

New York's Health Needs.

One of the easiest methods of the transmission of disease has apparently been overlooked by the Department of Health of New York City—the telephone transmitter.

Diseases without number are conveyed through the medium of the mouth and naturally a wide variety of bacilli lodge in the transmitters of telephones.

The danger arising from this source cannot be gainsaid, for in the busy public telephone stations each instrument is in use during a considerable proportion of each working day or night by a great variety of persons.

The Department of Health has been engaged in many altruistic enterprises, some of which have bordered on paternalism, but it seems to the casual observer that many of the practical methods of disease prevention have been overlooked. How many cases of tuberculosis come from the use of public telephones? They must be many, for people have no hesitancy in coughing and sneezing into the transmitters.

The Department had the number of passengers in the cars of New York's various transportation lines counted for a while, but we observe no change in the air of the average car. They are wretchedly ventilated, although a perfect means of ventilation could be installed.

After all is said and done, the public health of New York or any other city cannot be conserved until the great mediums of disease transmission are controlled. New York streets are filthy with dirt, dust, horse dung, paper and refuse of all kinds. It is puerile to say the condition of our streets cannot be improved, for one has only to point to the thoroughfares of Paris or Berlin to disprove such a statement. Even London, with its archaic civic methods, has cleaner streets than New York. The average European city puts us to shame.

Disease is closely related to dirt and New York will never be a healthy city until it is clean. If our health authorities would allow the practice of medicine to remain where it belongs—in the hands of a competent medical profession—and would confine their efforts to their legitimate functions, which include keeping the city clean, we would attain real results instead of much newspaper publicity.

Five Minute Clinical Talks.

We are introducing in this issue a new department devoted to clinical material which will be known under the general heading of Five Minute Clinical Talks. The articles in this department will be very short and to the point, and the endeavor will be to give the reader a bird's-eye view of the subject. It is our intention to publish in this department articles dealing with the various specialties in medicine, and while no regular program will be followed the endeavor will be made to present seasonable matter.

Dr. Cornwall as a Contributing Editor.

It is a pleasure to announce the selection of Dr. Edward E. Cornwall of Brooklyn as a contributing editor of THE MEDICAL TIMES to take the place of the late Dr. Frank D. Gray of Jersey City. Dr. Cornwall is one of the best known internists in this country. He is attending physician to several Brooklyn hospitals, is widely known as a consultant and a writer, and at the moment has two books in preparation—one on the Heart and one on Diet in Disease. He will contribute a series of short pointed articles dealing with the heart, diabetes, dietetics and therapeutics.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Competition Is the Life of Trade.

Upon the bulletin board of a Brooklyn hospital there was posted the other day a notice which had actually been distributed to the residents of the Alabama avenue district by one of the local physicians. The notice, which was picked up in a doorway, follows:

Ten Reasons Why You Should Employ Dr. ———.

Dr. ——— is not young and inexperienced.

Dr. ——— has a very gentle manner with children and they take to him at once.

Dr. ——— does not handle any of his patients roughly.

Dr. ——— dispenses all medicines and makes no extra charge for the same or for dressings or examination of specimens.

Dr. ——— is always considerate of the modesty of his female patients.

Dr. ——— performs no unnecessary operations.

Dr. ——— is particularly skilful in confinement cases and has never lost one.

Dr. ——— has never lost a case of pneumonia or typhoid, and in fact has written no death certificates during the past two years.

Dr. ——— has no bad personal habits.

Dr. ——— never declines night calls and makes no extra charge for the same. All fees are extremely low and collections are not forced.

Forgive Us!: A New Method of Circumcision.

We thought until yesterday that there could be no more new methods of circumcision. And then, behold! a friend initiated us into the last step in the evolution of this operation. Now, it seems, you put a test tube over the glans penis (must fit the glans pretty nicely), passing it under the prepuce (stretching that if necessary) until it has reached the point where the mucous membrane is reflected off from the penis, when a circular cut is made with a knife a little behind the flange of the test tube, which, of course, takes off all the skin and mucous membrane required at one stroke.

Next!

A Specious But Vicious Principle.

Dr. J. Bayard Clark, of New York, published an interesting article in the July issue of the *New York State Journal of Medicine* on the self-supporting hospital. He showed just how such an institution could be made to meet all its expenses and also pay salaries to its medical and surgical staffs, whose offices would be in the building.

This is surely the last word among all the schemes to prevent the general practitioner from being self-supporting. We must have self-supporting hospitals, and self-supporting staffs, but it remains for someone to show how the general practitioner may become self-supporting. Were such hospitals as Dr. Clark proposes to become numerous no practitioner on the outside would stand much chance of survival.

Sometimes the psychology of such schemes seems to stand revealed as a desire to draw coteries together which shall be exempt from competition. Do not such schemes mean professional decadence, with the weak unconsciously storing honey for themselves while they poison the supplies of the rank and file?

What except the calling of a general strike by the American Association of General Practitioners against ambitious wreckers will shortly be in order?

Incompetence.

The accusation of incompetence is most commonly hurled at the general practitioner. So definitely, and maliciously, has the term been associated with the general practitioner, that special practitioners have acquired a sort of immunity on this count.

We don't like the term incompetence very much. There must be but few really incompetent practitioners of either the general or special sort. When accusations of incompetence are looked into carefully they are often found to be unfounded, or confounded with venial sins.

We confess to a conviction that what is called incompetence applies about equally to both general and special practitioners. They both commit mortal and venial sins in about the same ratio.

We have known throat men to overlook badly diseased gums in accounting for or treating a cervical adenitis that was manifestly of buccal origin, yet they were the last men that one would think of as incompetent. We have known of alienists diagnosing hysteria as dementia precox and committing the case, and of another alienist who declined to take seriously a victim of mental disease who immediately thereafter committed a fatal assault. Such instances could be multiplied to infinity, but we know very well that they really have no bearing on the question of competence.

The subject simmers down to this, that the general practitioner is judged unfairly. In his case there are never any extenuating circumstances. It is a sin in the first place to be a general practitioner, indeed, a mortal sin. From this premise appear to flow all the other vicious implications or accusations. The simplest errors are adjudged heinous offenses, while errors of like significance on the part of the special practitioner are wholly ignored.

The very surgeon whose abdominal operations are frequently followed by post-operative adhesions causative of life-imperilling complications, due to the transference of iodine from the skin to the intestinal coils in the course of manipulations, is often the loudest in his condemnation of the shortcomings of the general practitioner.

After all, do we not all live in glass houses? Let him who is without sin throw stones.

The Probable Truth About Tobacco.

We venture to suggest that the use of tobacco may have a significance physically creditable to the users. We do not fancy that the physically degenerate would be able to withstand much smoking. There is something, after all, in the much derided and condemned notion on the part of the schoolboy that one proves his manliness, in a way, by smoking. It takes a pretty good boy to stand it. It certainly has no charms for weaklings.

It will be noted that we are not denying the harmful effects of tobacco. We must also admit that our argument is equally applicable to alcoholism and war; that is, the ability to withstand alcohol and the ability to endure the hardships of war are both proofs, in a way, of manhood and manliness. The mere injuriousness of a thing does not in itself prove anything against one who wrestles with it, else we should have to point out the fireman as a physical defective.

Physically speaking, the man who can and does

smoke is in general a better man than the non-smoker. Whether he is a less or more moral man we leave to the casuist.

Where Filth Conduces To Health.

In the course of the governor's investigation as to whether the \$1,000,000 municipal garbage disposal plant which is being erected on Staten Island will be a nuisance and detrimental to public health, a witness, testifying as an expert, stated that before he engaged in the garbage disposal industry he was in poor health. He attributed the recovery of his health to working in and about garbage. He had found, he said, that shovelling garbage was also a cure for tuberculosis.

It is amusing how testimony of this character is put forward by humorists without cracking a smile. It would be hard to imagine any industry, however noisome, that might not be declared salutary by some joker or enslaved retainer, were such industry under scrutiny.

Now that we come to think of it, Barren Island was recently cited as a most salubrious environment in which to live and work. In this case the humorist was our own Commissioner of Health, who pointed out that no cases of poliomyelitis had been reported from the Island during the epidemic of that disease.

We wonder whether the commissioner would be averse to spending his vacation under the lee of Barren Island.

There are filthy places from which bubonic has not been reported, yet this does not justify hygienic iconoclasm.

We are asked by the Compensation Commission and by the insurance companies handling the industrial accidents to render bills for our services like those that we render in our private practice when treating the same class of cases.

Strange, isn't it, that all such work can't be private, and all self-respecting people able to pay without aid from the State and employers?

Nothing is rotten in Denmark—Oh, no!

Why do we ascribe the prohibition movement in this country to the influence of the New England Puritan spirit, when as a matter of fact those early settlers were very human and candid about the use of rum?

One would think, to hear the anvil chorus against alcoholism, that abstinence, in some magical fashion, conferred efficiency upon everybody, when we have only to contemplate the fanatics themselves to realize how objectionable—socially, industrially, spiritually and mentally—people can be who never use alcohol.

Slight Injuries in Syphilitic Patients.

T. H. Glenn and W. R. Bates call attention to the prevalence of syphilis in small towns as well as larger cities. The multiplicity of the lesions it produces necessitates the practitioner's keeping this disease constantly in mind. Injuries which may cause no trouble in a normal individual may cause serious disturbance in a syphilitic. The fact that slight injuries result in serious trouble should make one suspicious of syphilis, and a Wassermann test should be made. A small splinter in the eye, the slightest trauma to the nose, a burn such as may be produced by hot coffee may localize a syphilitic lesion, and this lesion may be the first outward sign of the presence of the disease. The Wassermann test should be made in doubtful cases. If the test is made properly and if an individual test is made it is reliable.—(*Jour. Iowa State Med. Soc.*)

Heart disease, pneumonia and tuberculosis cause more than 30 per cent. of deaths in the United States.

The Physician's Library

Skin Cancer. By Henry H. Hazen, M. D., Professor of Dermatology in Georgetown and Harvard Universities. Cloth. 250 pages. Illustrated. \$4.00 net. St. Louis: C. V. Mosby Co., 1916.

This is a useful monograph on a subject of growing importance. It presents the latest views on malignant tumors and the author draws from his wide experience at Johns Hopkins and in some of the Washington hospitals.

Pathology is carefully considered and the treatment is laid down whenever possible.

Disorders of the Sexual Function. By Max Hübner, M. D., of Mount Sinai Hospital Dispensary. Cloth. 318 pages. \$3.00 net.

Believing that sexual neuroses should be intelligently treated by the urologist, the author has set down herein much data of great value along the lines of the subject. He has treated a topic of which we know too little in a dignified manner and has demonstrated the necessity of bringing this useful information to the attention of the profession. The work is one which will receive deserved attention.

Diseases of the Digestive Tract. By A. Everett Austin, M. D., of Tufts College. Cloth. 552 pages. \$5.50 net. St. Louis: C. V. Mosby Co., 1916.

This book covers the subject thoroughly. The author appreciates the importance of the physiological chemistry of digestion and it is given its proper place in the discussion of that function and its disarrangements.

He emphasizes the importance of the four cardinal features in diagnosis of gastro-intestinal diseases, history, physical examination, chemical analysis and radiology, and believes the diagnosis will fail if any one is omitted.

The book is painstakingly prepared and should find favor.

The Practice of Obstetrics. By J. Clifton Edgar, M. D., Professor of Obstetrics, in Cornell University. Fifth edit. Cloth. 1067 pages. Illustrated. \$6.00 net. Philadelphia: P. Blakiston's Sons & Co., 1916.

The new edition of this well known work discusses twilight sleep, the treatment of uterine inertia by pituitary extract and the artificial feedings of infants in the light of latest developments. The work will continue to be one of the standard text books on the science and art of obstetrics.

Diseases of the Skin. By Richard L. Sutton, M. D., Professor of Diseases of the Skin in the University of Kansas. Cloth. 916 pages and 693 illustrations. \$6.50 net. St. Louis: C. V. Mosby Co., 1916.

This is a comprehensive work and one which will commend itself to general consideration. The subjects are taken up under the general headings of hyperemias, inflammations, hemorrhages, Hypertrophies, atrophies, anomalies of pigmentation, neuroses, new growths, diseases of the appendages, parasitic affections and diseases of the mucous membrane adjoining the skin.

Each condition is treated sufficiently amply to meet every necessity and many fine illustrations add value to an excellent treatise.

Genito-Urinary Surgery

The Prevention and Treatment of Venereal Diseases: The Intervention of the State.

In the final report of the Royal Commission on Venereal Diseases it was recommended that arrangements should be made without delay for providing adequate facilities for the diagnosis and treatment of all persons in the community affected with venereal disease; and a large part of the financial burden which effective measures must imply should be borne, it was said, by the State. The opinion of the Commission was heartily endorsed both by the medical profession and the public. The evidence which came before the Commission proved beyond doubt that venereal diseases—syphilis, gonorrhea and soft chancre being so defined—could be controlled and their incidence on the population reduced within narrow limits by early and efficient treatment, but it also appeared that as yet the best methods of diagnosis and therapy are not available for the population generally, with the consequence that venereal diseases inflict a vast amount of preventable suffering upon the community, culminating in the loss of many lives and in the physical ruin of many citizens.

The Regulations of the Local Government Board direct that the council of every county and county borough shall, subject to the approval of the Board, make arrangements for enabling any medical practitioner practising in the area of the council to obtain, at the cost of the council, a scientific report on any material which the practitioner may submit from a patient suspected to be suffering from venereal disease. They further provide that these public bodies shall prepare and submit to the Board a scheme which ensures the treatment at hospitals or other institutions of persons suffering from venereal diseases, and under which medical practitioners can be supplied with salvarsan. It will therefore be the duty of the councils to proceed with the preparation of a scheme for the provision of the necessary facilities for diagnosis and treatment. Dr. Newsholme, medical officer to the Local Government Board, says the immediate urgent need is that adequate facilities for the diagnosis and treatment of venereal diseases in their early and at all communicable stages should be provided when and where they are absent or deficient. He outlines, under three heads, the arrangements which will be necessary: (a) The establishment of clinics at hospitals or elsewhere; (b) the supply of salvarsan; and (c) the provision of laboratory facilities for aid in diagnosis and treatment. Under this plan each administrative county and county borough is regarded as a unit for the establishment of a scheme for treatment centres, and the clinic would in the first instance be organized in towns where there is a suitable general hospital, and, when practicable, at hospitals having medical schools attached, as well as at hospitals specially designed for women and children. The point is insisted upon in Dr. Newsholme's memorandum that every clinic should be available for the treatment of all comers without distinction as to means or as to place of residence, while the treatment should be given as far as practicable in co-operation with the patient's own doctor. These provisions arise directly out of the report of the Royal Commission, which says: "The condition that the institutional treatment should be available for the whole community is one to which we attach cardinal importance. The two main difficulties in curing venereal diseases and thus preventing their spread are to ensure the application of patients for treatment at the outset of the disease, and to maintain continued attendance until the doctor certifies that the patient is free from infection. Although gratuitous treatment will not entirely remove these difficulties, we think it will go far to do so. It may be that persons will present themselves for treatment who, in the opinion of the medical officer in charge, can be satisfactorily treated by their own doctor and who can afford to pay for their own treatment. In such a case we think that the medical officer might properly refer the patient to a private practitioner, but if the patient is unwilling there should, in our opinion, be no refusal to treat him at the institution."

At every clinic the out-patient work, while varying with local circumstances, will certainly be the most important part of the treatment, but accommodation will be required for the treatment of syphilis by salvarsan, and for the care of certain acutely contagious cases, whether of syphilis or gonorrhea, and, further, in the event of surgical complications arising. For such cases a small number of hospital beds will have to be made available. Experience has shown that syphilis in its infectious stages is best treated by periodic injections of salvarsan, supplemented by courses of mercurial treatment. Salvarsan will be supplied gratuitously if administered by the medical officer of the clinic or by a medical practitioner authorized by him, while the officer's duties will include the giving of demonstrations to medical practitioners on the methods of taking and transmitting material for laboratory diagnosis. In this way the level of scientific treatment of venereal diseases will rise rapidly, and it is not foolishly optimistic to expect that our population may soon be largely freed from one of its greatest physical scourges.—(*Lancet*, July 22, 1916.)

Torsion of the Testicle.

Torsion of the testicle has always been regarded as a condition mainly deriving its interest from its rarity. Study of recent cases shows the mistakes that can be made; and if the older literature is examined in this light, cases will be discovered recorded under such diagnosis as hemorrhagic infarction of the testicle, acute thrombosis of the vessels of the spermatic cord, spontaneous necrosis of the testicle, gangrene of the testicle after hematocele, orchitis in misplaced testicles, acute hydrocele, etc. All such cases are not due to torsion of the cord. There is every reason to believe that some cases are due to an infective inflammation of the testicle accompanied by hemorrhage, as with the pancreas—hemorrhagic pancreatitis. Both clinically and pathologically, proved cases of torsion present many and various pictures; so much so, that nowadays

cases of acute torsion, subacute torsion, and chronic torsion of the testicle are recognized.

The testicle on the right side suffered more frequently than the left. In about sixty-six per cent. (two-thirds of the cases) the gland was definitely imperfectly descended. In the remainder, thirty-four per cent., it is either definitely stated or implied to have been fully descended. These figures are, in fact, of little value, because, from study of the descriptions of the thirty-four per cent. in which the testicle is said or implied to have been fully descended, it is obvious that some developmental defects existed. So that an examination of the available examples makes it certain that some developmental defect is present in a much greater proportion than the figure sixty-six per cent. represents. In fact, torsion of the testicle would seem to be unusual apart from such deficiency.—(*Med. Press*, No. 37, 1915.)

The Control of Venereal Disease in Western Australia.

By an act placed on the statute book of Western Australia last December, provision has been made for the free diagnosis and treatment of venereal diseases. The act provides: That all affected persons shall at once place themselves under treatment by a medical practitioner. That the medical practitioner shall notify the age and sex of every affected person he attends, but not the name or address, though if for six weeks the patient fails to attend for treatment the doctor is to forward the name and address of the patient to the Commissioner of Public Health. The patient shall continue under treatment, attending at least once each month, until a certificate of freedom from venereal disease is obtained. If a patient change his doctor he must disclose who his previous doctor was. A person suspected on reasonable grounds to be suffering from venereal disease may be arrested and detained fourteen days for medical examination, and on the order of the Governor for such longer period as may be necessary. None but medical practitioners shall treat such cases. A clean sweep is made of every form of publication or advertisement of cures of any sort for venereal disease, impotency, or female irregularities.—(*Brit. Med. Jour.*, August 5, 1916.)

Vesical Drainage.

An historical review of the methods employed, as regards vesical drainage, all of which are apparently described and criticized, E. G. Davis, Baltimore, describes the method devised for him of vacuum drainage which has been previously published, but without the improvement in the form of a mercury manometer, which acts as a safety valve in the present apparatus, permitting air to pass either in or out of the urine bottle as the occasion requires. The description is accompanied by illustrations which render it more intelligible. These, of course, cannot be reproduced in the abstract. The mode of use of the apparatus is also described and six cases of its employment are briefly reported. A paragraph added by Dr. Hugh H. Young says this ingenious apparatus, invented by Dr. Davis, has revolutionized the technic of urinary drainage at our clinic, completely transformed the postoperative treatment, changed the condition of the patient from soggy discomfort to cleanly comfort, and produced healthy dry granulating wounds in place of the unhealthy water-logged wounds with adherent urinary salts which we used to see.—(*J. A. M. A.*)

Supernumerary Ureter.

A case of complete unilateral duplication of the ureter is reported by A. R. Simon and H. O. Mertz, Laporte, Ind., who discuss the importance and surgical significance of the condition and its detection. The symptomatology is not sufficient for this, but the cystoscope will show many such cases, and there is always some irregularity in the bladder picture. If the opening of the third ureter is obscured by mucus, as in the case reported, or occurs among the folds of the trigon or vesicle neck, chromoureteroscopy may be necessary. The Roentgen ray alone may suggest the anomaly, but not give an accurate diagnosis. It is most often the ureter draining the cephalic pelvis which has the abnormally placed opening, which is usually lower and nearer the mid line conforming to Weigert's rule. The following are the author's conclusions: "1. Supernumerary ureters are more common than generally appreciated by the clinician. 2. They may be productive of a pathologic condition demanding surgical correction. 3. An otherwise benign condition may be rendered malignant through the association with a supernumerary ureter. 4. Their recognition is possible in every case. 5. In our case, the unilateral duplication had a direct bearing on the progress of the pathologic process."—(*J. A. M. A.*)

Obstetrics and Gynecology

Carcinoma of the Uterus.

Reuben Peterson, of Ann Arbor, after a careful consideration of the subject, reaches these conclusions:

1. Further experience with the radical abdominal operation for cancer of the uterus confirms the belief that it is an exceedingly dangerous procedure and will always be attended by a high primary mortality.

2. Even if the percentage of operability of cases of cancer of the uterus markedly increases in this country and elsewhere there will always be border line cases attended by a high primary mortality.

3. This is true because it is not always possible even with the greatest care in examination of the patient prior to operation to estimate the extent of the disease.

4. Errors in judgment mean death from shock if the disease be too far advanced or failure to complete the radical removal of the cancerous uterus.

5. However, in spite of a high primary mortality, it is the only procedure, with the possible exception of the extended vaginal operation which holds out any reasonable promise of a permanent cure.

6. Primary and end-results of the radical operation for cancer of the uterus must be considered together in order to judge of the good accomplished in a given series of cases.

7. Unless the operations be radical the end-results will be poor, and if they be radical the primary mortality must be high.

8. If the end-results be poor the burden of proof is upon the radical abdominal operator to show why he did not choose a much safer palliative procedure.

9. Since 1912 experience with 14 ordinary panhysterectomies for cancer of the fundus shows worse primary and end-results than in 11 cases previously reported where radical removal was performed.

10. This showing and the results following removal of carcinoma of the fundus by various methods in the Wertheim clinic as reported by Weibel lead to the conclusion that, because carcinoma of the fundus is more easily cured than when the cervix is involved, we are not justified in thinking it can be treated any less radically than carcinoma of the cervix.

11. The primary mortality in 59 cases of cancer of the cervix and fundus treated by the radical abdominal operation was 25.4 per cent.

12. The extent of the involvement in cancer of the uterus can only be determined definitely after the abdomen has been opened. If the parametria are not too much involved and the condition of the patient's kidneys, heart and blood-vessels warrant a prolonged and depressing operation it is justifiable to attempt the radical operation.

13. During the past four years 124 cases of cancer of the uterus have been seen in the university and private clinics. The disease was so far advanced in 36 cases that operation was refused or nothing was done. The cautery method was tried in 58 cases and proved valueless except as a palliative procedure.

14. In spite of attempts to educate the public regarding cancer, the cases of cancer of the uterus seen during the past four years were more advanced than has formerly been the case.

15. The end-results in 51 patients operated upon five or more years ago were most gratifying, combining fundus and cervix cases; 27 of the 51 patients were alive and well after five years or 52.9 per cent. of all cases operated upon, while 69.2 per cent. of all those surviving the operations were alive after five years.

16. Of 40 cases of cancer of the cervix operated upon five years or more ago, 18 of those surviving the operation are alive and well today. Thus 47.3 per cent. of the total number remain cured after five years, while 62 per cent. of those surviving the operation remain cured.

17. These percentages were obtained by Wertheim's formula where patients dying of intercurrent disease or those lost track of are subtracted from the total number of operative cases or from the number surviving.

18. The length of time elapsed since the operations upon the 18 patients who are alive and well vary from five up to thirteen years. There is every reason to think these patients are permanently cured, although one patient did have a recurrence and died between five and six years after the radical operation.

19. In spite of the high primary mortality, the end-results

(Continued on p. 20.)

"ROCHE"

To the Medical Profession :

New York 1916

We would consider as a favor information of any case in which a higher price than the one current before the war is being charged for Digalen, Thiocol Tablets, Thiocol Syrup, or Pantopon Roche (Pantopium Hydrochloricum).

Even of the few "Roche" specialties which have been temporarily exhausted we have sold every package to the last at exactly the same price as that current before the war, trusting that by so doing we would maintain the good-will of the physicians in the products until they again become available.

We ask for your co-operation in carrying through our policy of opposing every attempt at speculation at the expense of physician and patient.

The Hoffmann-La Roche Chemical Works.

Special

INFANT FEEDING

Malnutrition-Marasmus-Atrophy

MELLIN'S FOOD

4 level tablespoonfuls

SKIMMED MILK

8 fluidounces

WATER

8 fluidounces

Analysis:	Fat	.49
	Protein	2.28
	Carbohydrates	6.59
	Salts	.58
	Water	90.06
		<u>100.00</u>

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

MELLIN'S FOOD COMPANY,

BOSTON, MASS.

(Continued from p. 352.)

in those surviving the operation encourage us to continue with the procedure in suitable cases.—(*Surg. Gyn. & Obst.*, Vol. xxiii, No. 3.)

Blood Pressure in Pregnancy.

From a study of 5,000 consecutive cases in the pregnancy clinic of the Boston Lying-In Hospital, F. C. Irving, Boston, has endeavored to ascertain: (1) the normal range of blood pressure in pregnancy; (2) the significance of low blood pressure; (3) the significance of high blood pressure, particularly as regards the toxemias of pregnancy, and (4) to state certain results obtained in the prevention of eclampsia by the appropriate treatment of these toxemias. From this study, he deduces conclusions substantially as follows: In 80 per cent. of pregnant women the blood pressure ranges from 100 to 130, and in 9 per cent. the blood pressure may be below 100 once or more. When below 90 it does not mean that the patient will have shock unaccompanied by hemorrhage of confinement. In 11 per cent. it may be above 130 once or more. This seems to be influenced somewhat by age, nationality, and parity. High blood pressure is more frequently a sign of toxemia in the young than in those over 30. Elevated blood pressure is more often an index of toxemia than albuminuria and is apt to be an earlier sign. The degree of elevation indicates more surely the likelihood of toxemia than does the amount of albumin, but both are of the utmost importance. Isolated cases of high blood pressure without albuminuria or toxemia were not infrequent, but usually responded to free catharsis. Some pressures remained high in spite of treatment, and were apparently normal during pregnancy, at least for the patient who exhibited them.

A progressively rising blood pressure often from a low level, even though it never reaches the arbitrary danger point, should be taken with apprehension as a most valuable sign of approaching toxemia. Toxemia is much more common with the blood pressure above 150 than below that point, and most patients with eclampsia had a pressure of 160 or more. It may occur, however, with only moderate pressure. All toxemia cases develop both albuminuria and high blood pressure. The incidence of eclampsia in this series was only slightly smaller than the usual figure, but Irving thinks that in two-thirds of the cases it was due to neglected advice. If his patients had been discharged for disobeying instruction the statistics would have been much more favorable, but it was considered that it would be unjust to the ignorant foreigners who constitute the majority of the patients to abandon them when they most needed care.

Hysterectomy for Fibroids.

Sir John Bland-Sutton says that as the protein manifestations and combinations of pelvic tumors are oftentimes puzzling, he has framed a few aphorisms which may be useful in practice.

Two things disquieting in diagnosis:

1. To distinguish between solid ovarian tumors and large subserous fibroids.

2. And between tubal swelling and uterine fibroids.

Three foolish things:

3. To give opinions on pelvic swellings without making a vaginal examination.

4. Or on hypogastric swellings without passing a catheter.

5. To remove fibroids without examining the woman's urine for sugar until she is comatose two or three days after the operation.

Four things useful to know:

6. When a barren woman between 35 and 45 has retention of urine, it is almost certain that she has a fibroid in her womb.

7. A fibroid that suddenly becomes painful during pregnancy is probably in a state of red degeneration. The clinical signs simulate tubal pregnancy, axial rotation of an ovarian tumor, and acute infection of the appendix.

8. Errors in the differential diagnosis of fibroids and pregnancy are usually made before the beating of the fetal heart is audible.

9. A cancerous mass in the pelvic colon, in contact with the uterus, imitates the signs of a subserous fibroid.

Four things that are wise:

10. When in doubt whether a big uterus in a young woman contains a child or a fibroid, wait for a month and re-examine the patient.

11. To remember that ovarian tumors give much trouble to pregnant and lying-in women, but fibroids are more deadly, for they are liable to become septic.

12. After the removal of a fibroid in the procreative period of life a woman is more liable to grow more fibroids than to conceive successfully.

13. To remember that uterine bleeding after the menopause, in a barren woman with a fibroid, often signifies the existence of cancer within the uterus.—(*Brit. Med. Jour.*, July 29, 1916.)

Stillbirths.

In a preliminary report on the bacteriologic study of the causes of some stillbirths, J. B. De Lee, Chicago, reports briefly the findings in three cases. One case seen thirteen years ago was that of healthy mother delivered of a child born with a temperature of 101, which in a few hours rose to 103. The child died of streptococcus septicemia, the mother showing no signs of infection. A year later a physician's wife, after a mild pharyngitis, developed albuminuria and eclampsia. Artificial delivery was performed and pure pus, in which was found the pneumococcus, exuded from the child's nostrils. The three cases here reported, and which indicate to De Lee that the child can become ill independently of its mother and even die without her being affected directly or without any disease at all, are one in which a macerated fetus was delivered, from the organs of which a pure culture of *Streptococcus viridans* was obtained, and in the other two there was a similar condition of the fetus, with streptococci and pneumococci, respectively. De Lee is convinced that this finding opens up a new field and may reveal the causes of many peculiar diseases in pregnancy.—(*J. A. M. A.*)

Three Cases of Labor Obstructed by Ovarian Cyst.

W. Salisbury says that a case seen late in pregnancy or early labor is most safely treated by Cesarean section. Seen late in labor—especially if the uterus be infected—the safer course is to turn the uterus out of the abdomen, remove the cyst, and deliver the child *per vias naturales* before closing the abdomen. The method of induction of labor late in pregnancy followed by watchful waiting until dilatation is complete, then delivery by forceps or version plus ovariectomy, has two disadvantages: (1) the obstruction frequently leads to premature rupture of the membranes and unsatisfactory dilatation of the os; (2) the cyst may rupture before laparotomy has been performed.—(*Proc. Roy. Soc. Med.*, 1916.)

Fatal Rupture of the Bladder During the Puerperium.

Huxley reports the case of a primipara delivered by forceps for persistent R. O. P., with omission of preliminary catheterization. On the ninth day the patient was attacked with severe abdominal pain, vomiting, and collapse. Post-mortem examination showed free urine in the abdomen, bladder thinned and adherent, slit 2.5 inches long at the fundus of the bladder, the edges of the slit being jagged and sharp. The rupture was probably due to pressure during delivery on the distended bladder. This pressure produced an atony of bladder musculature so that distention was not overcome. Strong abdominal contraction at the time of movement was sufficient to produce the rupture.—(*Proc. Roy. Soc. Med.*, 1916.)

Inguinal Hernia.

An analysis of 1,500 cases of the operation for inguinal hernia according to the modern methods, which have greatly extended the field, is given by Lincoln Davis, Boston. His summary and conclusions are given as follows: "In summing up this statistical study of inguinal hernia, I desire to emphasize the following points: The results of operation are on the whole good, better than might be expected under the conditions. The operation, however, has a definite, though low, mortality rate and should not be undertaken in the old and infirm without good reason. Postoperative cough, hematoma and sepsis are important factors in the incidence of recurrence, but the latter complication seems to play a lesser role than is generally assigned to it. A strikingly large number of patients anatomically cured complain of pain, probably due to nerve-traumatism. General anesthesia is still best in the routine case. Local anesthesia is very satisfactory, and has a wide application in cases in which inhalation anesthesia is contraindicated, but carries a slightly greater risk of sepsis, and hence probably of recurrence, too, although the latter conclusion is not borne out by our figures. Spinal anesthesia, on account of its greater danger and serious sequelae, should have little place in this operation. Careful study of the results in this series of cases reaffirms the importance of the well recognized surgical principles of clean anatomic dissection, conservation of nerve supply, high closure of sac, securely accurate coaptation of tissues without constriction, and complete hemostasis, in the attainment of success in the operation for inguinal hernia."—(*J. A. M. A.*)

Sanitary instruction is even more important than sanitary legislation.

A Powerful Nutritive Tonic

The great progress that has been made in scientific knowledge concerning bodily nutrition—and physiologic chemistry in general—has emphasized the great importance of certain enzymes and nutrients in maintaining nutritional processes at their highest efficiency.

Especially has attention been directed to diastasic ferments and carbohydrates, for it is increasingly evident that these play a very prominent part in a large proportion of nutritional derangements.

As facts have accumulated, and the notable efficacy of diastase and carefully selected carbohydrates in the management of many forms of malnutrition has been conclusively demonstrated, the use of malt extract has rapidly extended.

The need for malt extract of the highest quality and diastasic efficiency has very naturally led many physicians to turn to

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Honestly made from the best barley malt, for nearly half a century this pioneer extract of malt has been widely and successfully employed by careful, discriminating physicians who have recognized its remarkable tonic and reconstructive properties. Exceptionally rich in natural diastase, maltose and other nutrient extractives, it has been used with conspicuous benefits in **malnutrition, diabetes, incipient tuberculosis as a substitute for cod liver oil, in infant feeding and in all forms of bodily decline where carbohydrate metabolism is defective or impaired.**

In starch indigestion Trommer Extract of Malt, through its influence on the digestive functions, can be relied upon to produce substantial and lasting results. To countless physicians, therefore, Trommer Extract of Malt is not only the ideal corrective of starch indigestion, but also the most dependable and satisfactory nutritive tonic and reconstructive at their command.

Useful and interesting literature on request

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one part, hot water three parts, is a useful gargle for sore throat. In mucous catarrhs, Listerine, suitably diluted, is most effectively applied by means of the spray apparatus or douche.

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is not only a vehicle for specially indicated alteratives, resolvents and astringents, but is itself an efficient, non-irritating antiseptic that is safe, pleasing to the taste and promptly effective.

A treatise on Respiratory Diseases will be forwarded members of the medical profession on request.

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Army Medical Corps Examination.

The Surgeon General of the Army announces that preliminary examination for appointment for first lieutenants in the Army Medical Corps will be held early in January, 1917, at points to be hereafter designated.

Full information concerning this examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, between 22 and 32 years of age at time of receiving commission in Medical Corps, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. Applicants who are serving this post-graduate internship and can complete it before October 1, 1917, can take the January examination. The examination will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications should be forwarded without delay to the Surgeon General of the Army.

There are at present two hundred and twenty-eight vacancies in the Medical Corps of the Army.

The Progress of Chiropody.

The practice of chiropody since the institution of the New York School of Chiropody, which was licensed by the State Board of Regents four years ago, is remarkable. Scientific work has displaced the haphazard methods of other days, and today the podiatrist who has received his education at one of the standard schools of chiropody is splendidly equipped to care for all foot ills.

The onward march of this branch of medicine was vividly portrayed at the recent alumni association meeting of Albany Medical College by the association's president, Dr. M. J. Lewi, who is also president of the New York School of Chiropody. The *Albany Medical Annals* thus quotes President Lewi:

"When I determined upon doing my part to raise chiropody from the trade classes and help place it where it belongs as a legitimate branch of medicine, resigning what was practically a life position as a medical educator, I was scoffed at, was charged with having developed the commercial bug and was told by some of my friends that I was spoiling such career as I had made in professional work. One of my classmates whom I met shortly after I had resigned as Secretary of the State Board of Medical Examiners in order to become the President of the School of Chiropody of New York, the first scientific institution of its kind ever established, upbraided me for becoming a 'corn-cutter.' Men prominent in the profession who had been my friends through fair and foul weather were skeptical as to the worth and propriety of the new undertaking. Three and a half years have gone by since this new propaganda was inaugurated and the faculty of this new school contains on its teaching staff fourteen licensed practitioners of medicine, who are serving without pay, in order that men and women may be afforded opportunity to acquire a comprehensive and scientific knowledge of these lesions of the foot which have been tabooed by medical schools. A corps of special lecturers serve the school additionally, and in that group are some of the most prominent men in medicine, three of them deans of New York state medical schools and most of the others professors in medical schools. Physicians are now coming to us for education along the lines of this work, so that they may engage in practice as foot specialists. Temple University has established a Chiropody Department and additional like schools have been established in San Francisco, Chicago and Cleveland. We have turned out over two hundred students who are practicing podiatry all over the world, and most of them, if not all, are making much more money than the average doctor and the public is deriving foot-comfort as it never before experienced it. Of course, it is hoped and planned that ultimately every podiatrist will be a graduated doctor of medicine, as should have been the case *ab initio*, but inasmuch as medical schools refused to instruct along these lines and post-graduate schools of medicine made no provision for providing even clinical instruction in podiatry, there was nothing left for the pioneer medical men who have undertaken this propaganda but to adopt and carry into effect the methods now being employed by the School of Chiropody of New York.

"Fire departments, police departments, factory heads, department stores, surface railroad corporations and other large employers of labor, recognizing the situation, are securing the

services of chiropodists both to relieve the suffering of their employees and to raise the standard of efficiency of their help. German authorities state that sixty per cent. of the school children have impaired feet and that ninety per cent. of this sixty per cent. grow to manhood and womanhood without these defects being corrected. We are planning to examine these children in schools and elsewhere and of ultimately attempting to treat and restore their feet to a normal condition, so that they may not grow up to be cripples. The present war in Europe has verified statements previously made that battles have been lost and won because of the non-care or care of the feet of the soldiery. We are in touch with the surgeon generals of the Army and Navy, and Congress will be asked next year to make an appropriation so that orthopedic and podiatric supervision may obtain in those two arms of the government."

Protection Against Substitution.

The extensive substitution and adulteration of aspirin in powder and especially in tablets have impelled the manufacturer of this preparation to introduce Bayer tablets of aspirin (5 grs.), marked with the "Bayer Cross" as a protection against spurious imitations.

For many years aspirin was supplied in bulk to various reputable pharmaceutical concerns which made it into tablets sold by them under their firm names. Unfortunately, many unscrupulous persons, encouraged by the popularity of the drug, engaged in the manufacture and sale of fraudulent tablets which were largely bought by mercenary druggists, to whom profit signified more than reliability. Within the past year or two substitution and adulteration of aspirin on a large scale have been brought to light by the Bureau of Chemistry of the United States Government and the health boards of various large cities. Examination of specimens of some of the products seized by the United States authorities showed them to consist of calcium phosphate and starch, cream of tartar and citric acid with some alum, or milk sugar, starch and calcium acid phosphate. Still other tablets that have been analyzed contained only a small fraction of the specified dose of aspirin, the rest being composed of inert material. For this reason no physician could be sure of the genuineness of aspirin tablets.

This has now been overcome by the introduction of Bayer Tablets of Aspirin, which afford the physician and patient absolute protection against substitution.

Germ Killing Power of Synol.

The primary aim of Johnson & Johnson, of New Brunswick, N. J., in making Synol Soap, was to produce a substance for the sterilization of the hands of surgeons and nurses in the operating room. It has, however, been found adaptable to every use to which soap can be applied, in hospital, operating room or household.

Under strict laboratory tests Synol in diluted solution of from one per cent. to five per cent. kills resistant disease and wound producing organisms in from twenty to fifty seconds. In practice Synol Soap is used in dilutions of from one to ten per cent. Synol action is so marked because it softens and dissolves dirt, grease and scale in which bacteria are imbedded and allows the germicide to act.

Fifty Years in the Medical Field.

Parke, Davis & Co. has issued, in connection with its fiftieth anniversary, a jubilee souvenir which is a valuable and handsome publication. It gives the story of the fifty years' experience of this well-known firm and its photographs show the laboratories as they were in 1866-1883 and today. There are reproduced many of their branch laboratories and the photographs of the executive leaders of the firm. Parke, Davis & Co. has long been distinguished as one of the most advanced pharmaceutical houses in the world, and a study of the faces of the men who have made the company shows why this organization has made such remarkable strides in its half century of existence.

Preparedness.

Preparedness has extended even to the medical field, and Reed & Carnrick, a firm which is ever in the vanguard in the advance of medicine, has issued a handsomely printed booklet on this subject, giving not only a large amount of valuable data regarding the military and naval plans for preparedness, but also showing how the physician should be prepared by being able to scientifically treat indigestion. This condition is the basis of so many human ills that the matter set forth in the booklet is both timely and valuable. Not only is the booklet excellently written, but the printing and engravings leave little to be desired.